# CONGESTION MANAGEMENT SYSTEM for Northeastern Illinois

2002 Status Report

May 2002



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# **Congestion Management System for Northeastern Illinois**

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# 1 Introduction

Congestion management has been mainstreamed into transportation development processes. Planning, programming and project development efforts by the region's highway and planning agencies have standardized process components that either directly investigate congestion reduction strategies or address other issues, such as air quality, that result in congestion mitigation. The congestion management system (CMS) that was initiated in the 1991 Intermodal Surface Transportation Efficiency Act is integrated into the region's transportation culture.

Illinois Governor George H. Ryan identified reducing traffic congestion as the first of five guiding principals in the Illinois Tomorrow initiative<sup>1</sup>. Two-thirds of the Illinois Tomorrow funding has been committed to projects that will directly reduce traffic congestion and expand mass transit for commuters and travelers in Illinois.

Analysis of historical travel data and projected model travel data indicate that the growth rate of congestion and vehicle miles of travel is decreasing and will continue to do so. This decrease in growth rate is an indication that programs and plans are yielding the desired benefit. Continued growth in suburban transit ridership, and the recent reversal of transit-use decline in the City of Chicago, also indicate progress. There are still, however, major issues related to existing congestion and there is no overall indication that the amount of congestion is decreasing. Regional population continues to grow and the ability to serve increasing demand has not been resolved.

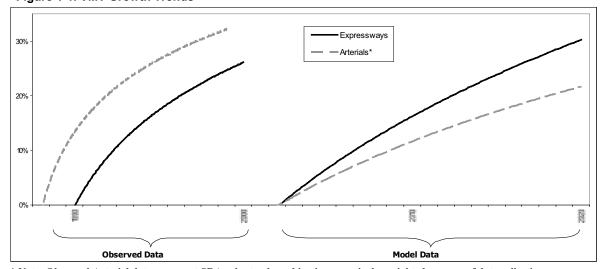


Figure 1-1. VMT Growth Trends

Figure 1-1 provides a graphical representation of VMT growth rate trends. The curved effect indicates the decrease in growth rate and the increased height of the lines indicate that growth continues to occur. For comparison, population increased by 11.4 percent from 1990 to 2000 and is expected to increase 13.1 percent between 2002 and 2020. Employment increased by approximately 16 percent and income was up about 27 percent (adj. for inflation) in the 1990's.

<sup>\*</sup> Note: Observed Arterial data represent SRA subset only and its time span is the weighted average of data collection years.

<sup>&</sup>lt;sup>1</sup> <u>Illinois Tomorrow, Balanced Growth for a Better Quality of Life, June 2001</u>

# 1.1 Report Approach

#### **Overview**

Monitoring and evaluation of congestion in the northeastern Illinois region is the focus of this report. A historical snap shot of federal, state and local efforts to integrate congestion management into the transportation development process is presented in Section 2.0. A historical perspective of travel and congestion is presented in Section 3.0 and, lastly, a future impression of travel and congestion is presented in Section 4.0.

This report builds on a decade and a half of efforts by regional transportation agencies. The Chicago Area Transportation Study Policy Committee approved the northeastern Illinois Congestion Management System in October of 1997 after nearly a decade of local planning and coordination with the U.S. Department of Transportation. Several supporting documents were later developed to streamline implementation of the congestion management system and to monitor benefits to the transportation system.

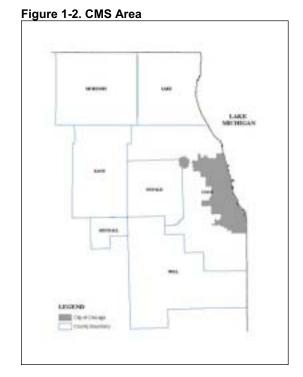
The area covered by the CMS for northeastern Illinois includes Cook County, DuPage County, Kane County, Lake County, McHenry County, Will County and two and one-half townships in northeastern Kendall County. The CMS area is shown in Figure 1-2. As the CMS only applies to a portion of Kendall County, it is not included in the analyses reported in this document.

#### Analysis Approach

While congestion can mean many things to many people, for purposes of this report congestion on a roadway is evaluated using the following definitions.

- Congestion occurs when the ratio of the volume of vehicles on a roadway segment compared to the vehicle carrying capacity of the segment exceeds one.
- Vehicle miles traveled (VMT) are calculated by multiplying the number of vehicles on a roadway segment by the length of the segment (in units of miles).
- Vehicle hours traveled (VHT) are calculated by multiplying the travel time on a segment (converted into units of hours) by the number of vehicles on the segment.

The historical congestion and travel analysis was prepared using observed data developed by the



Illinois Department of Transportation (IDOT) and the Illinois State Toll Highway Authority (ISTHA). The roadway system has been segmented into two categories, 1) the expressway and tollway system and 2) a subset of the Strategic Regional Arterial (SRA) system, *with some* 

additions in the City of Chicago. An evaluation of freight vehicle activity on the state primary truck route system within northeastern Illinois is also presented.

Three time periods were evaluated in the historical analysis so that the variation of change over time could be considered.

- Expressway data from the IDOT Traffic System Center and tollway data from ISTHA were collected in 1990, 1995 and 2000.
- Data for the arterial system were developed from IDOT Annual Average Daily Traffic maps prepared between 1985 and 1999.
- Freight vehicle data were obtained from 1984 and 1992 IDOT Heavy Commercial Vehicle maps, and IDOT's 1996 Illinois Roadway Information System database.

A similar analysis process was developed looking forward to the year 2020 using model data from the CATS Regional Transportation Plan and Transportation Improvement Program efforts. The expressway and tollway, arterial roadway and truck evaluations are presented in separate sections and are based on model scenarios representing the years 2002, 2007 and 2020. These dates frame the current Transportation Improvement Program and the long-range Regional Transportation Plan.

# 1.2 Analysis Findings

#### Observed Data, Expressways and Tollways

Expressway/tollway vehicle miles of travel (VMT) have increased throughout the 1990's even though the rate of increase is declining. The central business district (CBD) and Chicago areas had the highest VMT per centerline mile and are also slowing the most in terms of VMT growth rate. Expressway/tollway VMT in the CBD grew at a rate of 0.1 percent per year between 1995 and 2000. The Kane and McHenry County areas had the highest rate of VMT increase between 1990 and 1995 (over 8 percent annually), but this rate decreased to around 2.5 percent per year between 1995 and 2000.

Congested VMT on the expressways/tollways more than doubled between 1990 and 2000. This congestion was only measurable in Cook and DuPage Counties in 1990 but began to show in the other counties by 2000. In Cook County the percentage of VMT that was congested increased from around 40 percent to over 60 percent between 1990 and 2000, and the percentage of VMT that was congested in DuPage County increased from 2 percent to nearly 50 percent.

The rate of growth in congested VMT in Chicago significantly slowed in the second half of the decade, but continued at a high rate of increase in the Cook County balance area and in DuPage County. The vast majority of severely congested VMT continues to occur in Cook County. Severe congestion is increasing at the highest rate in the City of Chicago. While the amount of congested VMT in DuPage County has greatly increased during the 1990's, only a small portion was severely congested in 2000.

#### Observed Data, Arterials

The regional VMT growth rate on the subset of arterials is decreasing at a much slower rate than on the expressway/tollway system. The early and late analysis time periods show very similar annual growth rates of 3.5 and 3.1 percent respectively. The counties of Lake, McHenry and

Will and the City of Chicago have smaller annual growth rates in the second time period, while the Cook County balance area and DuPage County have much higher annual rates during the second time period.

The percentage of congested VMT was highest in DuPage County in the initial and middle analysis years (just over 40 percent), but was surpassed by Lake County in the third time period with 56 percent. The annual growth rate of congested VMT was over 80 percent in McHenry County in the early time period and around 50 percent in Kane and Will counties in the second time period. The annual growth rates for the remaining areas were less than 24 percent during the early and later time periods. The percentage of severely congested VMT was highest in Chicago in the initial time period (17 percent), highest in DuPage County in the middle time period (20 percent) and highest in Lake County in the third time period (31 percent).

#### Observed Data, Trucks

Annual truck growth rates for the 1984 to 1992 period fell between 2.8 and 5.4 percent in all areas except in the Cook County balance area. However the Cook County balance area had the second highest annual growth rate between 1992 and 1996 (4.3 percent) and was second only to Lake County, which had a rate of 5.7 percent annually. The City of Chicago was the only area that showed an annual decrease in truck traffic during the second time period (-1.0 percent). The Cook County balance area has over twice as much truck VMT as Chicago (the second highest area) in all time periods. The Cook County balance area is also the only area that showed a larger increase in VMT between 1992 and 1996 than between 1984 and 1992.

#### Model Data, General Trends

VMT on the northeastern Illinois system is expected to continue increasing as we look ahead to the year 2020. Overall VMT projections indicate a 25 percent increase with annual increases becoming continually smaller. Cook County projections indicate 10 million additional vehicle miles traveled by the year 2020 and Lake County is projected to have 6.3 million additional vehicle miles traveled, an increase in size second only to Cook County. Higher rates of growth are also anticipated in DuPage and Will Counties.

Overall congested VMT is expected to increase by 64 percent between 2002 and 2020. The largest increases are expected in Cook, Lake and DuPage counties (with 3.8, 2.2 and 1.7 million additional congested daily vehicle miles, respectively). The amount of congested daily VMT will at least double in DuPage and Lake counties, and will nearly double in the Cook County balance area.

The CBD is expected to have the largest percentage of total VMT that is severely congested in 2020: nearly 11 percent. A relatively large increase in the percentage of severely congested VMT is expected for Lake County, rising from 4 percent of total VMT in 2002 to nearly 8 percent in 2020. DuPage County and the Cook County balance area expected to have nearly identical percentages of severely congested vehicle miles traveled.

Total daily truck VMT for the region is expected to increase over 38 percent between 2002 to 2020, from 25.1 million to 34.8 million. The Cook County balance area has the largest amount of truck VMT in 2002 (9.9 million) and is expected to see an increase in daily truck VMT of

nearly 2.9 million by 2020. Lake County, with 2.2 million daily truck vehicle miles in 2002, is expected to experience the second largest increase in truck VMT (1.7 million) during this time period.

# 1.3 Conclusion

The Management and Operations Committee is positioned to draft actions, policies and further studies for recommendation to the Work Program and Policy Committees. The following planning, policy and study issues will be considered as next steps.

#### Planning and policies

How can we refocus our congestion mitigation goals in response to this analysis? What other social or economic factors should we consider in focusing our efforts? Are there new alternatives to add-lanes projects beyond those identified in the CMS Handbook?

#### Follow-up study

Why is the rate of VMT growth declining?

Can we identify congestion mitigation successes related to specific projects?

Which elements of the analysis can we focus on in future congestion mitigation efforts?

Did the Travel Demand Reduction reports result in any specific mitigating actions?

Could we use time-of-day evaluations to focus our understanding of congestion?

How does our region compare to other regions across the Nation in terms of congestion?

We are also anticipating language related to management and operations in the upcoming reauthorization, and expect follow-up rules and guidance from the Federal Highway Administration. Both recurring congestion (everyday/rush-hour congestion) and incident related congestion (accidents or special events) will likely be considered. A recommendation from FHWA staff to Secretary Mineta is anticipated in December of this year and we may have an opportunity to at least monitor, if not influence, that recommendation.

# 2 Congestion Management Perspectives

This section is intended to provide an overview of CMS activities over the last fifteen years. The perspectives include early planning efforts in the region, federal requirements and guidance, CMS Task Force efforts and the current CMS for northeastern Illinois. Most topics are superficially covered in this report. Previous documentation identified in footnotes provides detail descriptions of the subject material.

The concept of "mainstreaming" CMS in the transportation development process is detailed in Section 2.3 Congestion Management Today. This section relates planning efforts and development programs to the issue of congestion mitigation.

#### 2.1 Federal Initiatives

The United States Code for highways recommends the development, establishment and implementation of a program for managing congestion as one of six management systems: 1) highway pavement; 2) highway bridges; 3) highway safety; 4) traffic congestion; 5) public transportation facilities and equipment; 6) intermodal transportation systems and facilities<sup>2</sup>. In urban areas, these management systems should be developed and implemented in cooperation with metropolitan planning organizations.

The Congestion Management System is defined as "a systematic process for managing congestion that provides information on transportation system performance and on alternative strategies for alleviating congestion and enhancing the mobility of persons and goods to levels that meet state and local needs."<sup>3</sup>

The congestion management system was first identified in the 1991 Intermodal Surface Transportation Efficiency Act (ISTEA). In 1993, the USDOT issued an interim rule on Management and Monitoring Systems that guided the development of local congestion management systems. Interim CMS plans would be developed in 1993 and final CMS Plans would need to be in place by October of 1995.



The National Highway System Designation Act of 1995 changed the nature of the six management systems from mandatory to voluntary. The exception would be for the congestion management system in areas of air quality non-attainment. As the northeastern Illinois region is identified as a ozone non-attainment area, the CMS would remain mandatory. Also, in 1995 the deadline for CMS Plans was moved to October 1997, and additional federal guidance was developed in 1996 and 1997.

<sup>&</sup>lt;sup>2</sup> Title 23, United States Code-Highways, Section 303

<sup>&</sup>lt;sup>3</sup> CMS for Northeastern Illinois, Technical Supplement, October 1997

# 2.2 Northeastern Illinois CMS, Historical Perspective

## Operation GreenLight

Policymakers in northeastern Illinois recognized a need to address regional congestion issues prior to the 1991 ISTEA legislation. In 1989 Operation GreenLight was formed as part of the 2010 Transportation System Development Plan, recognizing that congestion in northeastern Illinois could not be addressed by any single agency. The operation GreenLight program brought together over 200 participants from both the public and private sectors to develop plans, programs and projects in a coordinated and comprehensive attack on congestion.

The Operation GreenLight effort resulted in the development of Strategic Regional Arterial network, strategic transit improvements, improved arterial and freeway traffic management, and improved demand management strategies.

#### CMS Task Force

The Chicago Area Transportation Study (CATS) formed the Congestion Management System Task Force in 1992 with the following charge.

Recommend to the Work Program Committee resolution of issues involved in the development of required processes and measurements employed in the specification, implementation and performance of the northeastern Illinois component of the congestion management system for the state of Illinois.

The CMS Task Force identified three main goals and objectives that were designed to guide the northeastern Illinois CMS.

- 1) Lessen congestion on the region's transportation network through multimodal solutions with priority given to alternatives to adding general traffic lanes.
- 2) Improve the traveling public's mobility and accessibility to goods and services through multimodal choices, especially for the elderly, disabled and economically disadvantaged.
- 3) Improve the movement of goods on multiple modes and access to origins and destinations through consideration of multimodal solutions.

#### Interim CMS

The CATS Policy Committee approved the Interim Congestion Management System in October of 1993. This plan recognized how congestion management efforts relate to the transportation planning and programming processes and identified the link between environmental policy and the CMS. In effect, most of the efforts of regional transportation planning related directly to the reduction of congestion or at least had a positive effect on mitigating congestion.

The interim CMS Plan suggests the following: analyze transportation management strategies to make more efficient use of the existing transportation system, evaluate projects through the NEPA process to identify reasonable travel demand reduction strategies, and support MPO commitment to appropriate demand reduction strategies in project corridors. CATS and IDOT would also perform regional and sub-regional/corridor analyses relating to alternative add-lanes strategies.

In October of 1995 the USDOT recommended a two-year extension of the deadline for CMS Plans. The CATS Policy Committee adopted the CMS Plan for northeastern Illinois in October of 1997.

#### Northeastern Illinois CMS

The northeastern Illinois CMS is viewed as a process involving a number of connected activities, rather than an isolated system. The congestion management system combines activities described in the interim CMS with new activities as follows:

- system monitoring identify network, establish performance measures, identify data sources, data management and reporting procedure
- strategy consideration consider strategies to reduce congestion and enhance mobility on projects that add general purpose lanes, consider strategies to reduce number of single occupancy vehicles and develop approached to improve system efficiency
- prepare travel demand reduction reports (TDR) as part of projects that add general purpose lanes
- develop alternative review guidelines identify strategies that should be considered
- prepare a CMS Handbook a resource guide for project planners
- prepare corridor or sub-area studies
- effectiveness evaluation periodic assessments of the effectiveness and efficiency of implemented strategies in relation to established performance measures

The CMS for northeastern Illinois recognizes needed support from all agencies in the region. Specific functions and tasks are identified for CATS, IDOT, local City and County agencies, transit agencies and the ISTHA/Chicago Skyway.

#### Travel Demand Reduction Reports

In the mid 1990's IDOT and CATS prepared several TDR reports that were designed to address CMS requirements on specific add-lane projects. The TDR reports are intended to be a companion document to the environmental and engineering design reports for the ongoing studies. These reports recommend transportation system management strategies for improving system efficiency and extending the life of the roadway corridor.<sup>4</sup>

Many recommended travel demand reduction strategies focused on reducing peak hour work trips. While peak hour work trips are only a portion of daily trips on the transportation network, the impact of work trips on peak congestion is considerable.

Many recommendations for reducing travel demand in project corridors include the expansion of rideshare service programs that corridor employers would support. Options would also be provided to corridor travelers on existing and expanded transit, bicycle and pedestrian facilities. An extensive list of travel demand reduction strategies is provided in the Congestion Mitigation Handbook.

<sup>&</sup>lt;sup>4</sup> TDR Technical Report for Palatine Road/Willow Road, July 1997

Example TDR reports prepared in the mid-1990's are listed below.

- Illinois Route 64 DuPage County, Illinois Route 53 to Villa Avenue, November 29, 1995
- U.S. Route 45 Will County, Colorado Avenue to Nebraska Street, March 25, 1997
- *U.S. Route 45 Lake County*, Illinois Route 176 to Illinois Route 132, August 1996 (IDOT) January 15, 1997 (CATS)
- Palatine Road/Willow Road Cook County, Illinois Route 83 to Interstate Route 94, July 1997

#### CMS Follow-up Efforts

The CMS Task Force completed the Congestion Mitigation Handbook in September of 1998. The handbook identifies forty-six strategies that could be evaluated as part of the congestion management system, or could be used by project implementers for analysis on specific corridors. A summary of information regarding policy and applications, typical benefits and impacts, and application principals is provided for each strategy. Lastly, the handbook provides approaches for evaluating the effectiveness of strategies after they have been implemented.

CMS Status Reports developed in 1998 and 1999 summarize the continuing relationship between the Regional Transportation Plan/Transportation Improvement Program and ongoing congestion management efforts. These reports evaluate the performance of the transportation system using the 1997 conformity analysis model, with volume to capacity ratio, intersection level of service and percentage of truck traffic performance measures.

The status reports also identify efforts that support the CMS.

- High Occupancy Vehicle facilities
- Transit capital and operational improvements
- Non-motorized modes
- Congestion pricing
- Growth management (relating to land use)
- Intelligent Transportation Systems
- General purpose highway capacity expansion
- Demand Management Strategies
- Traffic operational improvements
- Intermodal Access Management

A perspective of multiple levels or plateaus is developed in these reports that relates "system monitoring/effectiveness evaluation" with "strategy consideration/ project selection". A single plateau represents a common scale for analyzing and evaluating an improvement. The broadest plateau represents the most comprehensive general (i.e. regional) evaluation of all improvements with specific project detail increasing as one ascends the plateaus to specific project design. <sup>5</sup> This plateau concept clarifies the important variation between regional, sub-regional and project specific efforts.

The CMS Task Force held its last meeting in January of 1999. The accomplished goals include the consistent and coherent analysis of various congestion management strategies as they relate to the transportation system development and the presentation of the benefits that management

<sup>&</sup>lt;sup>5</sup> CMS for northeastern Illinois, 1998 Status Report, February 1999

strategies produce. Congestion analysis activities will continue as a circular process of system monitoring, strategy consideration, project selection and strategy effectiveness. CATS will continue the preparation of regional plans and studies that support the regional and sub-regional analysis plateaus, and implementing agencies will focus on CMS strategies as they relate to specific projects.

# 2.3 Congestion Management Today

Congestion management has been mainstreamed into the regional planning and project development processes as a result of nearly a decade and a half of program development. The goals initiated with Operation GreenLight and supported by ISTEA and TEA21 federal legislation have been achieved through extensive coordination and planning by regional transportation agencies.

The Regional Transportation Plan (RTP) identifies the following objective: reduce congestion and improve the efficiency of transportation facilities through the use of transportation demand management, intelligent transportation systems, and other appropriate strategies. Many other goals and objectives sited in the Plan address the issue of congestion: maximize accessibility and provide a variety of mobility options, expand the advantages of alternatives to single occupant vehicle travel, and promote the development of a transportation system that promotes clean air, and minimizes mobile source emissions.

The Transportation Improvement Program (TIP) is guided by emission reduction strategies that result in congestion mitigation. The northeastern Illinois TIP and RTP are required to be consistent with State Plans that continually reduce emissions in our region. Proposed roadway projects are tested for emission reducing effects prior to inclusion in the TIP.

#### The Intelligent Transportation System

The vision for the northeastern Illinois Intelligent Transportation System is as follows.

"ITS actions will be deployed to materially improve the operation of the region's multi-modal ground transportation system through benefits achieved via enhanced information and management of facilities and services."

The ITS will be deployed to enhance information about the condition of the transportation system so that users can make informed choices in travel decisions. Operating agencies will also be able to optimize the performance of the transportation system by monitoring performance, reacting to system inefficiencies, and by planning for special circumstances. An elaborate communications systems tying field devices to traffic management centers will allow expeditious responses by system operators.

<sup>&</sup>lt;sup>6</sup> 2020 Regional Transportation Plan, 2000 Edition, October 2000

<sup>&</sup>lt;sup>7</sup> Northeastern Illinois Strategic Early Deployment Plan, June 1999

#### Congestion Mitigation and Air Quality Improvement Program

The FHWA and FTA goal to reduce delays on the transportation system and to protect and enhance the natural environment and communities affected by transportation is greatly advanced by the Congestion Mitigation and Air Quality improvement program (CMAQ)<sup>8</sup>.

The CMAQ program is an annual effort that has been in place since 1992. Locally funded CMAQ projects are evaluated for their impact on emission reduction per dollar spent, and projects that rate high in emission reduction are most likely to be supported by the program. Many of the projects selected in northeastern Illinois result in improved travel speeds along arterial corridors, improved service to transit users, and supported development of non-motorized transportation modes. These results tie directly to the goals of the northeastern Illinois CMS.

#### Bicycle and Pedestrian Planning

Recognizing the important role non-motorized transportation plays in our region's transportation system, CATS has deepened its commitment to bicycle and pedestrian planning over the last decade. Municipalities, advocacy groups, the business community and transportation service providers are planning to fill in the gaps of the bicycle and pedestrian infrastructure, improve access to transportation facilities and encourage trip diversions from the private automobile.

#### Community Mobility Task Force

The purpose of this task force is to provide a mechanism for the participation and input of laypersons/citizens/stakeholders on community mobility, access to jobs, public participation, and other transportation issues that are in the purview of the MPO. Mobility and access are central to the charge of the task force. Issue topics include the following: RTA Regional Transit Loading Plan - improving regional mobility by facilitating transfers between transit agencies; Job Access Reverse Commute Program; low-income, welfare recipient, persons with disabilities and elderly mobility issues; efforts by Transportation Management Associations; and balanced growth within neighborhood corridors.

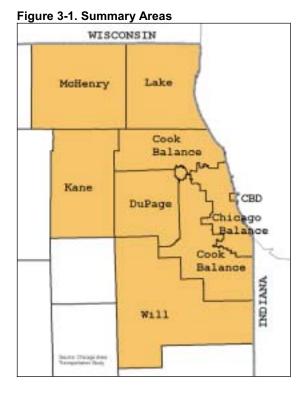
<sup>&</sup>lt;sup>8</sup> The Congestion Mitigation and Air Quality Improvement Program, US Department of Transportation

# 3 Analysis of Observed Data

This section reports statistics developed using annual average daily traffic (AADT) volumes

collected through field observations. An analysis was conducted to examine trends in traffic on northeastern Illinois' expressways between 1990 and 2000. The growth in vehicle miles traveled on a subset of the region's arterials between the mid-1980s and 1999 is also examined. Finally, the changes in heavy commercial vehicle traffic between 1984 and 1996 are addressed. A sample of the data used to conduct the analyses is included in Appendix A.

For purposes of this document, the CMS region is divided into eight summary areas (shown in Figure 3-1) to allow for the reporting of more meaningful statistics. Five of the eight summary areas represent an entire county in northeastern Illinois. The other three areas together comprise Cook County, which is divided into the following areas: Chicago's Central Business District (CBD), the remaining balance of Chicago and the remaining balance of Cook County.



North Avenue on the north, Ashland Avenue on the west, Cermak Road on the south and Lake Michigan on the east form the boundaries of the CBD. In some instances, statistics for the Chicago balance area and the CBD are combined to report totals for Chicago.

The following definitions may be useful in understanding and interpreting the statistics reported in this document:

- **Vehicle miles traveled** (VMT) are calculated by multiplying the number of vehicles on a roadway segment by the length of the segment (in units of miles).
- **Vehicle hours traveled** (VHT) are calculated by multiplying the travel time on a segment (converted into units of hours) by the number of vehicles on the segment.
- Centerline miles represent the length of a roadway segment, regardless of the number of driving lanes on the segment in either direction.
- Lane miles are calculated by multiplying the length of a roadway segment by the number of driving lanes on the segment.
- **Congestion** occurs when the ratio of the volume of vehicles on a roadway segment compared to the vehicle carrying capacity of the segment exceeds one.

# 3.1 Expressways

This analysis includes the interstate highways and toll highways in northeastern Illinois. Table 3-

1 lists the number of centerline miles for the expressways used in this analysis, as well as the lane miles in each of the analysis years. Figure 3-2 displays the expressway system used in this analysis, as well as the primary data source for AADT counts on the expressway segments, which were collected in 1990, 1995 and 2000. As shown, expressway AADT counts came from three sources.

The source for AADT counts on the region's toll facilities was the Illinois State Toll Highway Authority (ISTHA), which has a method of

Table 3-1. Expressway Miles

	Centerline	L	ane Miles	
	Miles	1990	1995	2000
CBD	14	132	132	132
Chicago balance	62	455	455	455
Cook Co. balance	155	914	977	977
DuPage Co.	62	374	377	395
Kane Co.	34	136	136	139
Lake Co.	25	150	150	150
McHenry Co.	9	36	36	36
Will Co.	82	340	340	340
TOTAL	443	2,537	2,603	2,624

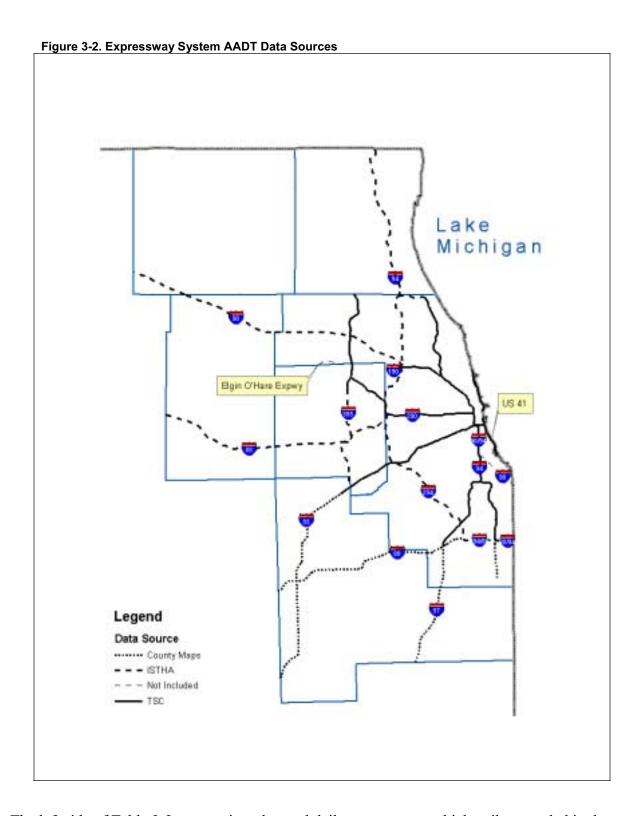
converting toll revenue collected into traffic volumes. AADT counts for the interstate highway segments in DuPage County and most of Cook County were obtained from IDOT's Traffic System Center (TSC), which uses closed-loop detectors imbedded in the pavement to gather the data. Finally, county traffic maps were used to supplement expressway data for the areas of Will County and southern Cook County that are not covered by TSC surveillance.

A portion of Lake Shore Drive (US 41) is also included in this analysis because its operating characteristics are similar to those of an interstate highway and because it is monitored by TSC. The Chicago Skyway (I-90) is not included in the analysis due to incomplete data. Finally, while the Elgin-O'Hare Expressway is monitored by TSC, it is not included in this analysis because the facility was not open in 1990.

#### 3.1.1 Vehicle Miles Traveled

CATS' Information Services Division annually compiles expressway AADT counts from ISTHA and the TSC for a majority of the expressway system in the CMS region. This information is stored in a database containing detailed segment lengths for the expressway system, from which vehicle miles traveled can be calculated. For instance, it contains the lengths of mainline segments (those between interchanges), as well as the lengths of segments between entrance and exit ramps within an interchange.

AADT counts for 1990, 1995 and 2000 were input into the database for the portion of Will County expressways not included in TSC surveillance. Vehicle miles traveled for 1995 and 2000 were then calculated based on the AADT counts and the expressway segment distances. As the 1990 expressway database did not include all of the detailed segment information, expressway vehicle miles for 1990 were estimated as follows. Individual expressway segments were combined into larger sections representing between three and four miles of expressway. The 1990 and 1995 mainline AADT counts were compared within these sections and the increase in AADT was used as a proxy for the increase in vehicle miles traveled between 1990 and 1995. Using this calculated increase and the vehicle miles traveled in 1995, 1990 vehicle mile estimates were created.



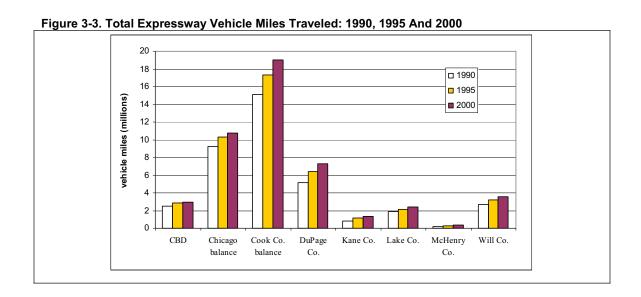
The left side of Table 3-2 summarizes the total daily expressway vehicle miles traveled in the CMS region in 1990, 1995 and 2000. Daily vehicle miles traveled on the expressways increased

from 37.6 million in 1990 to 47.6 million in 2000, a nearly 27% increase. The Cook County balance experienced the largest increase in expressway vehicle miles traveled between 1990 and 2000: nearly 3.9 million additional daily vehicle miles. During this period, DuPage County and the Chicago balance area had the second and third largest increases in daily expressway vehicle miles, with nearly 2.2 million and 1.5 million respectively.

Table 3-2. Daily Expressway Vehicle Miles Traveled: 1990, 1995 And 2000

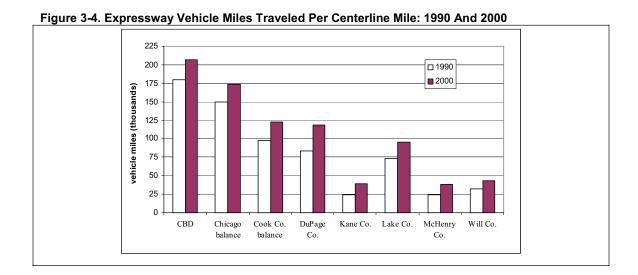
	1990 Vehicle Miles	1995 Vehicle Miles	2000 Vehicle Miles	Vehicle Miles Traveled per Centerline Mile			
	Traveled*	Traveled	Traveled	1990*	1995	2000	
CBD	2,522,792	2,879,587	2,895,336	180,199	205,685	206,810	
Chicago balance	9,287,313	10,349,699	10,755,802	149,795	166,931	173,481	
Cook Co. balance	15,145,381	17,373,109	19,043,672	97,712	112,085	122,862	
DuPage Co.	5,138,768	6,420,283	7,333,120	82,883	103,553	118,276	
Kane Co.	828,890	1,173,799	1,330,607	24,379	34,524	39,136	
Lake Co.	1,833,507	2,150,317	2,378,330	73,340	86,013	95,133	
McHenry Co.	215,760	308,358	344,318	23,973	34,262	38,258	
Will Co.	2,651,225	3,222,293	3,554,170	32,332	39,296	43,344	
TOTAL	37,623,636	43,877,445	47,635,355	84,929	99,046	107,529	
	*Estimated						

The expressway vehicle miles traveled listed in Table 3-2 are displayed in Figure 3-3. As can be seen, the Cook County balance area had the most daily expressway vehicle miles in 2000, with over 19 million. The Chicago balance area had the second largest number of expressway vehicle miles in 2000 with nearly 10.8 million. These two summary areas had the largest and second largest amounts of expressway vehicle miles traveled during the entire ten year period. DuPage County ranked third in each of the analysis years in terms of daily vehicle miles traveled on the expressways.



While the Cook County balance area had the most expressway vehicle miles traveled in any of the summary areas (as shown in Table 3-2), it also contained the most miles of expressways (as

shown by centerline miles in Table 3-1). In order to gauge how much traffic each summary area's expressways were handling, vehicle miles traveled were divided by the expressway centerline miles in each area. Expressway vehicle miles traveled per centerline mile for 1990 and 2000 are displayed in Figure 3-4. Comparing total daily expressway vehicle miles (Figure 3-3) to daily expressway vehicle miles per centerline mile (Figure 3-4) reveals that they exhibit different patterns.



While the Cook County balance area had the most daily expressway vehicle miles traveled in each of the years, it only had the third largest number of expressway vehicle miles on a per centerline mile basis. The CBD had about one-sixth the amount of daily expressway vehicle miles as the Cook County balance area in each of the analysis years, yet it had the largest amount of daily vehicle miles traveled per centerline mile each year. In fact, the CBD had close to twice as many expressway vehicle miles traveled per centerline mile as the Cook County balance area. In each of the analysis years the Cook County balance area had at least two and one-half times as many expressway vehicle miles as DuPage County, yet the vehicle miles traveled per centerline mile for DuPage County were only slightly lower than those for the Cook County balance area. Finally, the vehicle miles traveled per centerline mile for Lake County were just slightly less than those for DuPage County, even though DuPage County had nearly three times as many expressway vehicle miles traveled.

While expressway vehicle miles traveled per centerline mile illustrates how much traffic is on a facility, it does not account for the varying facility capacities due to differing numbers of travel lanes. In other words, this measure cannot determine how well a facility is able to serve the traffic on it. In order to examine the "density" of daily expressway traffic, vehicle miles traveled were divided by the expressway lane miles shown in Table 3-1. The daily expressway vehicle miles traveled per lane mile for 1990 and 2000 are displayed in Figure 3-5.

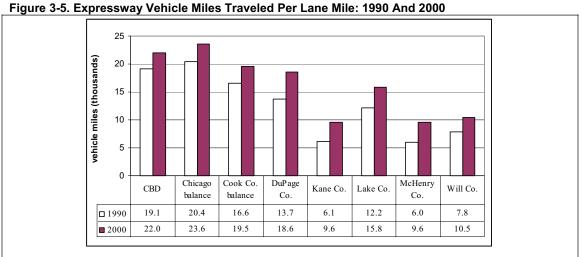
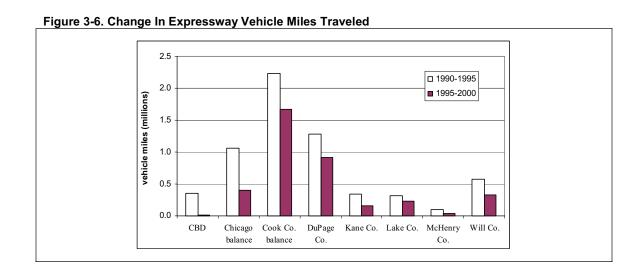


Figure 3-5 shows that the Chicago balance area had the most daily expressway vehicle miles traveled per lane mile in 1990 and 2000. The amount in the Chicago balance area increased from 20,400 vehicle miles traveled per lane mile in 1990 to 23,600 in 2000. The CBD followed closely behind the Chicago balance area, and had the second largest amount of expressway vehicle miles traveled per lane mile during the decade. The largest increase in the amount of expressway vehicle miles traveled per lane mile was in DuPage County: it increased by nearly 5,000 vehicle miles per lane mile between 1990 and 2000, representing a 35% increase.

#### Change from 1990-1995 and 1995-2000

Using the data in Table 3-2, the 1990-1995 and 1995-2000 changes in expressway vehicle miles traveled are shown in Figure 3-6. The amount expressway vehicle miles traveled increased between 1990 and 1995 was greater than the increased number of vehicle miles between 1995 and 2000 for every summary area. The smallest increase in expressway vehicle miles between 1995 and 2000 occurred in the CBD, with just under 16,000 additional vehicle miles.



#### Average Annual Growth

Figure 3-7 shows the average annual percentage increase in expressway vehicle miles traveled for two time periods: 1990-1995 and 1995-2000. This average annual increase was calculated by dividing the five year change in vehicle miles traveled (for example, 1990 to 1995) by the number of years (5) in order to determine the average number of additional expressway vehicle miles that would have to be traveled each year. This number was then divided by the vehicle miles traveled in the base year (1990) to determine the average annual percentage increase in expressway vehicle miles.

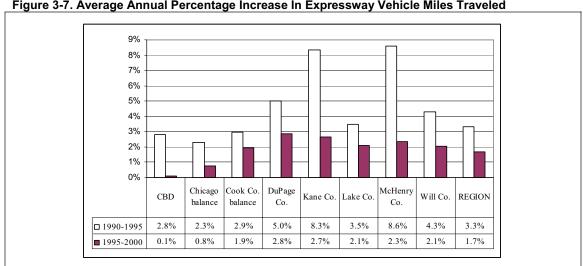


Figure 3-7. Average Annual Percentage Increase In Expressway Vehicle Miles Traveled

Referring to Figure 3-7, expressway vehicle miles for the entire CMS region increased by an average of 3.3% a year for the five years between 1990 and 1995. The corresponding annual growth rate in expressway vehicle miles traveled between 1995 and 2000 was about one-half that of the previous five years: 1.7%. Between 1990 and 1995, all three Cook County summary areas (the CBD, Chicago balance and Cook County balance) had average annual growth rates lower than the regional rate (3.3%). All other counties had higher growth than the regional average during this period. The largest 1990-1995 average annual growth rates were experienced in McHenry and Kane counties: 8.6% and 8.3% respectively.

The only two summary areas that had slower annual growth rates for expressway vehicle miles than the regional average between 1995 and 2000 (1.7%) were the CBD and Chicago balance areas. In fact, these two areas had average annual growth of less than 1% per year during this five-year period. DuPage County had the largest growth rate in expressway vehicle miles from 1995 to 2000 with 2.8% annually. Kane County was a close second, experiencing a 2.7% annual increase in expressway vehicle miles traveled between 1995 and 2000.

#### Regional Share of Vehicle Miles Traveled

As the previous tables and figures show, the rate of increase in expressway vehicle miles traveled has varied among the summary areas. As a result, there have been changes in each summary area's share of regional expressway vehicle miles traveled between 1990 and 2000, which are

displayed in Figure 3-8. All three summary areas that comprise Cook County show a declining share of regional expressway vehicle miles between 1990 and 2000. These three areas had a combined share of nearly 72% of the region's expressway vehicle miles traveled in 1990; by 2000 the combined share dropped three percentage points to 69%. The remaining five counties all increased their portion of regional expressway vehicle miles traveled from 1990 to 2000. DuPage County's share increased the most during this decade, rising from 13.7% in 1990 to 15.4% in 2000.

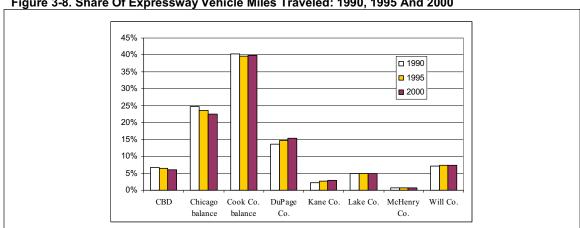


Figure 3-8. Share Of Expressway Vehicle Miles Traveled: 1990, 1995 And 2000

#### 3.1.2 **Congested Vehicle Miles Traveled**

#### Methodology

The following methodology was used to identify expressway congestion. Directional AADT counts on expressway sections were divided by the number of traffic lanes in that direction to determine the average number of daily vehicles per lane. A congestion threshold of 19,750 daily vehicles per lane was used for expressway sections with less than three directional traffic lanes and a threshold of 20,500 vehicles per lane was assigned to sections of expressway with three or more directional travel lanes. Expressway sections were then classified as congested when the number of vehicles per lane exceeded these daily thresholds. The thresholds used to identify congested expressway vehicle miles traveled were based upon an earlier study evaluating the implementation of bypass lanes for high occupancy vehicles (HOV) on metered expressway entrance ramps<sup>9</sup>.

In order to complete this analysis, it was necessary to account for lane additions to the expressway system that occurred during the time period being evaluated. To do this, a list of projects that added travel lanes to the expressway system (listed in Appendix B) was compiled. Then, beginning with the 2000 expressway network, the lanes added by the listed projects were "backed out" of the network to re-create the lane conditions in the 1995 and 1990 expressway networks.

<sup>&</sup>lt;sup>9</sup> A Survey & Planning Evaluation of Priority HOV Queue Bypass Lanes on Metered Expressway Entrance Ramps, Milestone Report #2: Regional Expressway Screening. Chicago Area Transportation Study. December 1999.

There was also an issue related to the number of lanes on the Kennedy Expressway (I-90/94). This facility has two reversible flow lanes that are used during part of the day to alleviate congestion in the direction with the most traffic. These reversible lanes were not analyzed separately from the regular travel lanes, rather the Kennedy was evaluated as a single facility. For instance, the vehicle miles traveled on the reversible lanes were added to those traveled on the regular lanes to determine a total for the facility. Likewise, the number of travel lanes on the regular and reversible sections were combined. The reversible lanes were represented by increasing the number of lanes in each direction by two. This was done because the intent of these lanes is to provide extra capacity to the travel direction that needs it most, and because each direction is given the use of these lanes.

One limitation of this congestion methodology is that all of a link's daily traffic will be considered congested or uncongested. In other words, once a congestion threshold is crossed all of the daily traffic and vehicle miles traveled on that link are considered congested. This methodology is not sensitive enough to measure travel during congested periods of the day compared to uncongested periods.

#### **Total Congested Vehicle Miles**

Table 3-3 shows the congested expressway vehicle miles traveled for 1990, 1995 and 2000. There were 11.3 million congested expressway vehicle miles traveled in the region in 1990, representing 30% of all vehicle miles on the expressways. By 2000 this amount had more than doubled to nearly 24 million vehicle miles, one-half of all expressway vehicle miles traveled in the region. Zeroes in Table 3-3 indicate that the methodology used did not detect any expressway congestion; however, this does not imply no congestion exists.

Table 3-3. Congested Expressway Vehicle Miles 1990, 1995 And 2000

		1990			1995			2000	
	1990 Total	Congested		1995 Total	Congested		2000 Total	Congested	
	Vehicle Miles	Vehicle Miles	%	Vehicle Miles	Vehicle Miles	%	Vehicle Miles	Vehicle Miles	%
CBD	2,522,792	1,348,344	53%	2,879,587	2,210,289	77%	2,895,336	2,275,918	79%
Chicago balance	9,287,313	5,814,298	63%	10,349,699	8,206,529	79%	10,755,802	8,499,163	79%
Cook Co. balance	15,145,381	3,997,369	26%	17,373,109	5,694,534	33%	19,043,672	9,149,467	48%
DuPage Co.	5,138,768	106,598	2%	6,420,283	1,901,699	30%	7,333,120	3,340,923	46%
Kane Co.	828,890	0	0%	1,173,799	0	0%	1,330,607	73,584	6%
Lake Co.	1,833,507	0	0%	2,150,317	0	0%	2,378,330	491,928	21%
McHenry Co.	215,760	0	0%	308,358	0	0%	344,318	0	0%
Will Co.	2,651,225	0	0%	3,222,293	0	0%	3,554,170	119,700	3%
TOTAL	37,623,636	11,266,609	30%	43,877,445	18,013,051	41%	47,635,355	23,950,683	50%

Note: A zero indicates that the methodology used may not be sensitive enough to measure localized or time-specific congestion.

The Chicago balance area had the largest amount of congested expressway vehicle miles in 1990 and 1995. However, by 2000 the Cook County balance area had surpassed the Chicago balance area to have the largest number of congested expressway vehicle miles (over 9 million). In 1990 the CBD had the third largest amount of congested expressway vehicle miles, which was more than twelve times larger than the fourth largest amount in DuPage County. By 1995 DuPage County had nearly the same amount of congested expressway vehicle miles as the CBD, and by 2000 it had over 1 million more congested vehicle miles traveled than the CBD.

The CBD and Chicago balance areas had the largest percentages of expressway vehicle miles that were congested: they increased from 53% and 63% respectively in 1990 to 79% in 2000. These were the only summary areas to have more than half of their expressway vehicle miles congested in any of the analysis years. The congestion methodology did not measure any expressway congestion in the counties of Kane, Lake or Will in 1990 or 1995. No measurable congestion on the expressways in McHenry County was found in any of the three years.

#### Congested Vehicle Miles Traveled per Centerline Mile and per Lane Mile

Figure 3-9 shows the congested expressway vehicle miles traveled per centerline mile for DuPage County and the three Cook County summary areas. As can be seen, the CBD had the most congested vehicle miles traveled per centerline mile in each of the three years. This is in spite of the fact that the CBD had the fewest congested expressway vehicle miles in 2000, and the second smallest amount of congested expressway vehicle miles of these four summary areas in 1990 and 1995. The Cook County balance area, which had four times as many congested expressway vehicle miles traveled as the CBD in 2000, only had one-third the amount of congested expressway vehicle miles traveled per centerline mile as the CBD in that year.

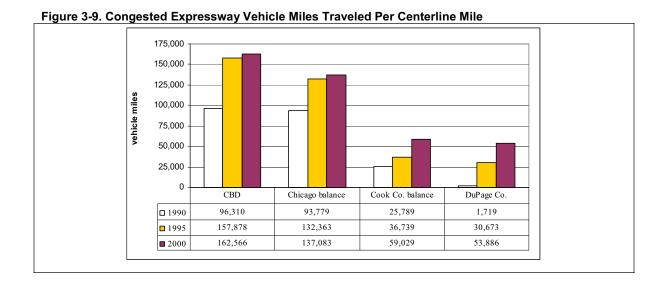
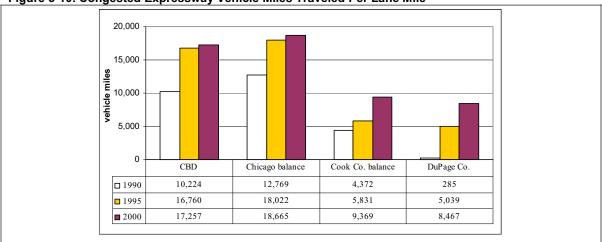


Figure 3-10 shows the daily congested expressway vehicle miles traveled per lane mile for DuPage County and the three Cook County summary areas. The Chicago balance area had the largest number of congested expressway vehicle miles traveled per lane mile in each of the three analysis years. The largest increase in the amount of congested expressway vehicle miles traveled per lane mile over the decade was in DuPage County, which increased by over 8,000 vehicle miles traveled per lane mile. The amount of congested expressway vehicle miles traveled per lane mile more than doubled in the Cook County balance area during the decade.



#### Figure 3-10. Congested Expressway Vehicle Miles Traveled Per Lane Mile

#### 3.1.3 Congestion Severity

Using the expressway congestion methodology described earlier, two categories of congestion were developed: moderate and severe. The thresholds for congested expressway links described previously were used to define moderate congestion. The thresholds for severe congestion were set 20% above those for moderate congestion. Thus, a threshold of 23,700 daily vehicles per lane was used to define severe congestion for links with less than three directional travel lanes. Expressway links with three or more travel lanes used a severe congestion threshold of 24,600 daily vehicles per lane.

Table 3-4 shows the congested expressway vehicle miles traveled from Table 3-3 separated into the moderately and severely congested categories. There were 5.9 million severely congested expressway vehicle miles in the region in 1990, which was slightly more than one-half of all of the congested expressway vehicle miles traveled that year. By 2000 the amount of severely congested expressway vehicle miles for the region had nearly doubled to 11.7 million. During the same period of time, the amount of moderately congested expressway vehicle miles traveled increased from 5.3 million to 12.2 million. As a result, severely congested expressway vehicle miles made up just under one-half of all congested expressway vehicle miles traveled in 2000, a slightly smaller proportion than in 1990.

	19	1990		1995		2000		
	Moderately Congested Vehicle Miles	Severely Congested Vehicle Miles	Moderately Congested Vehicle Miles	Severely Congested Vehicle Miles	Moderately Congested Vehicle Miles	Severely Congested Vehicle Miles		
CBD	1,123,965	224,379	1,438,027	772,262	707,724	1,568,194		
Chicago balance	1,933,957	3,880,341	3,068,071	5,138,458	2,743,494	5,755,669		
Cook Co. balance	2,211,412	1,785,957	2,654,375	3,040,159	5,163,812	3,985,655		
DuPage Co.	56,011	50,587	1,838,902	62,797	2,932,156	408,767		
Kane Co.	0	0	0	0	73,584	0		
Lake Co.	0	0	0	0	491,928	0		
McHenry Co.	0	0	0	0	0	0		
Will Co.	0	0	0	0	119,700	0		
TOTAL	5,325,345	5,941,264	8,999,375	9,013,676	12,232,398	11,718,285		

Table 3-4. Congested Expressway Vehicle Miles Traveled By Severity Category

Clearly, congested expressway vehicle miles were not distributed evenly throughout the region. As previously stated, there were no measurable congested expressway vehicle miles in the counties of Kane, Lake, McHenry or Will in either 1990 or 1995. By 2000, there were still no measurable congested expressway vehicle miles in McHenry County, while the other three counties did have some moderately congested expressway vehicle miles traveled. That means that all of the region's measurable congested expressway vehicle miles traveled were concentrated in Cook and DuPage counties in 1990 and 1995. Even in 2000, these two counties contained 97% of the region's total congested expressway vehicle miles.

Figure 3-11 examines the congested expressway vehicle miles for DuPage County and the three summary areas that comprise Cook County for 1990 and 2000. The left side of the figure shows the severely and moderately congested expressway vehicle miles for 1990, while the right side displays the amounts for 2000. The shaded portion of each bar represents the amount of severely congested expressway vehicle miles traveled, while the white portion shows moderately congested vehicle miles.

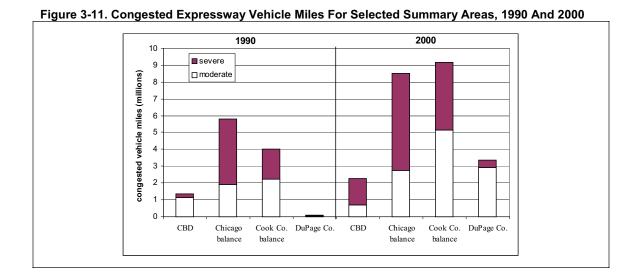


Figure 3-11 shows that while the Chicago balance and Cook County balance areas had similar amounts of moderately congested expressway vehicle miles traveled in 1990, the Chicago balance area had twice as many severely congested expressway vehicle miles as the Cook County balance area that year. In fact, two-thirds of the Chicago balance area's congested expressway vehicle miles were severely congested in 1990. Conversely, a majority of the congested expressway vehicle miles traveled in the CBD, DuPage County and the Cook County balance area were only moderately congested in 1990.

The total amount of congested expressway vehicle miles traveled increased in each of the four summary areas shown in Figure 3-11 between 1990 and 2000. Each summary area had more severely congested expressway vehicle miles in 2000 than in 1990. Two-thirds of the congested expressway vehicle miles were severely congested in the CBD and Chicago balance areas in 2000. The number of moderately congested expressway vehicle miles traveled also increased between 1990 and 2000 for every summary area except the CBD. The amount of moderately congested expressway vehicle miles in the CBD declined by over 400,000 from 1990 to 2000.

## 3.2 Arterials

Arterial AADT counts for the most recent year were obtained from the 1999 version of the Illinois Roadway Information System (IRIS), an Illinois Department of Transportation (IDOT) database containing information on the state's public highways. Arterial AADT counts for earlier years were obtained from county Traffic Maps created by IDOT. Due to the scope of the arterial system in the region, AADT

**Table 3-5. Arterial AADT Collection Years** 

<b>Year</b> 1990	Year	<u>Year</u>	Years
1990			
1000	1994	1998	8
1989	1993	1999	10
1988	1992	1999	11
1988	1992	1999	11
1985	1993	1999	14
1987	1991	1999	12
	1988 1988 1985	1988       1992         1988       1992         1985       1993	1988     1992     1999       1988     1992     1999       1985     1993     1999

counts can only be collected on a portion of the arterials each year. Thus, AADT counts for the counties in the CMS region are collected on a rotating basis. Table 3-5 lists the three most recent AADT count collection years for each county, which were used for this analysis.

In addition to differing data collection years for the counties, there are also differences by county in the span of time between the base year and mid year, and between the mid year and the present. For instance, there are eight years between the base and mid years for McHenry County, and four for all other counties. The difference between the mid and present years ranges from a low of four years for Cook County to a high of eight years for Will County. As can be seen in Table 3-5, Cook County has the smallest interval (8 years) between the base year and the present one used in the analysis, and McHenry County has the largest interval (14 years).

The Strategic Regional Arterial (SRA) system defined in the 2020 Regional Transportation Plan was chosen as a base for examining arterial traffic in the CMS region. This system of major arterials in northeastern Illinois was designated to "supplement the existing and proposed expressway facilities by accommodating a significant portion of long-distance, high-volume

automobile and commercial vehicle traffic in the region"<sup>10</sup>. Figure 3-12 shows the SRA system in northeastern Illinois. The darker segments in Figure 3-12 represent the portions to SRA system containing AADT counts for all three analysis years. These segments (referred to as the "SRA subset") are the basis for this analysis.

Due to a relative lack of SRA segments in Chicago that contained AADT counts for all three analysis years compared to the other summary areas, three additional arterial segments were identified to supplement the AADT counts in Chicago. These arterial segments are included in the SRA subset because their characteristics closely match those of SRA routes. The extra arterials are:

- Diversey from Harlem Avenue to the Kennedy Expressway (5.7 centerline miles)
- Roosevelt from Cicero Avenue to Ashland Avenue (4.4 centerline miles)
- 47<sup>th</sup> from Cicero Avenue to Western Avenue (2.9 centerline miles)

Table 3-6 displays the number of centerline miles included in the SRA system in northeastern Illinois. The three arterial segments in Chicago listed above are also included in the centerline miles total. The middle column of the table shows the number of centerline miles in the SRA subset that was used for the analysis. The last column lists the percentage of the total system that was used in the analysis. Seventy-seven percent of the total SRA centerline miles were used.

Table 3-6. SRA System\* Centerline Miles

Entire System	SRA Subset	%
178	76	43%
356	265	74%
141	112	79%
138	114	83%
190	173	91%
189	176	93%
163	128	79%
1,355	1,044	77%
	178 356 141 138 190 189 163	System         Subset           178         76           356         265           141         112           138         114           190         173           189         176           163         128

<sup>\*</sup>Includes additional arterial segments in Chicago.

# 3.2.1 Average Annual Growth in Vehicle Miles Traveled

This discussion will not present total vehicle miles traveled on the SRA subset because the number would not prove meaningful, due to the fact that only a small sample of the region's arterial system is included in this analysis. Instead, it will focus on the relative growth of vehicle miles traveled on the SRA subset. Using the same methodology as that for the expressways, the average annual percentage increase in vehicle miles was calculated for the SRA subset for two time periods: the base year to the mid year and the mid year to the present. These average annual growth rates allow for direct comparisons between time periods and summary areas by providing a uniform measure of the increase in vehicle miles traveled, irrespective of the length of time between data collection dates.

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<sup>&</sup>lt;sup>10</sup> <u>Strategic Regional Arterial Design Concept Report</u>. *Operation GreenLight*. Illinois Department of Transportation. Page 1.

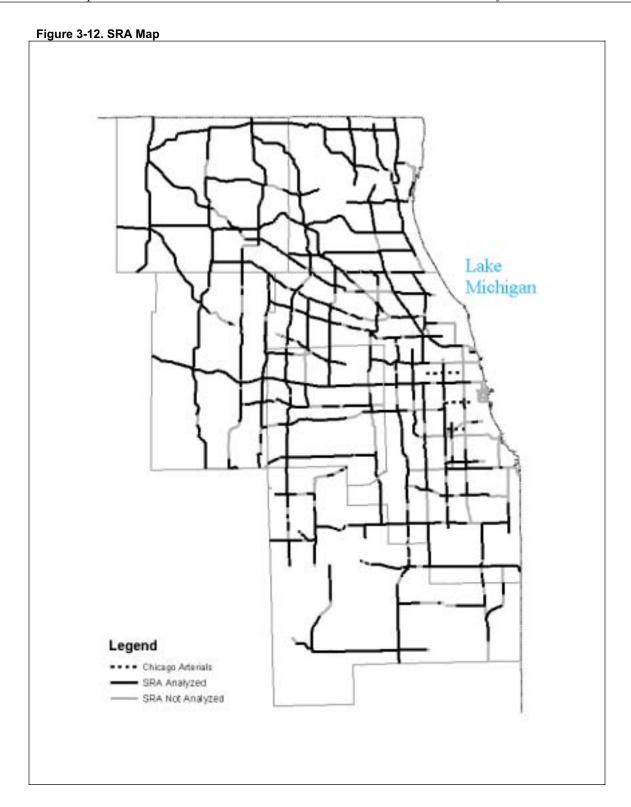


Figure 3-13 shows the average annual growth rates in vehicle miles traveled on the SRA subset. The average annual increases in vehicle miles traveled are shown for two time periods: the first period (the base year to mid year) and the second period (mid year to present). In addition to

growth rates for the summary areas, a regional average growth rate weighted by centerline miles of the SRA subset is also provided. Will County experienced the largest annual percentage increase in vehicle miles during both of these periods, 8.6% and 6.3% respectively. During the first period, the smallest annual percentage increase in vehicle miles traveled on the SRA subset (0.3%) was in the Cook County balance area. Chicago had the smallest annual percentage increase in SRA subset vehicle miles during the second period with 0.2%.

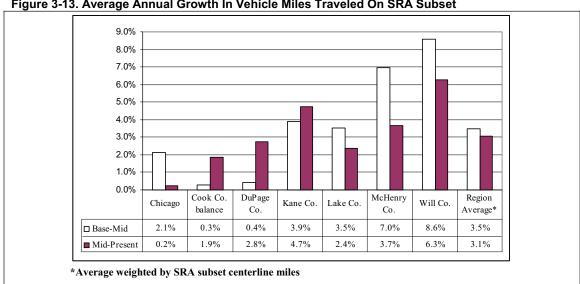


Figure 3-13. Average Annual Growth In Vehicle Miles Traveled On SRA Subset

As can be seen in Figure 3-13, four of the seven summary areas (Chicago, Lake County, McHenry County and Will County) had higher average annual growth rates during the first period, thus vehicle miles traveled on the SRA subset in these areas were increasing at a decreasing rate. DuPage County, Kane County and the Cook County balance all experienced higher annual growth rates during the second period. The regional average annual growth rate was slightly higher during the first period than the second, indicating that vehicle miles traveled on the SRA subset as a whole were increasing at a decreasing rate.

#### 3.2.2 Congested Vehicle Miles Traveled

#### Methodology

Congestion thresholds for the SRA subset were developed using procedures CATS staff has refined over the years for use in the regional travel demand models. These procedures determine the level-of-service E lane capacity for arterial links based upon the average lane width, the number of intersection approaches, and the arterial functional classification of the link itself and of the intersection approaches. Using these factors, all arterial links in a model highway network are assigned a lane capacity.

Using a model highway network representing the 1999 morning peak period (7:00 AM to 9:00 AM) from the 2000 Air Quality Conformity Analysis, the average arterial lane capacities were analyzed by the number of directional lanes. A distinct difference in lane capacities was found

between arterials with one lane in each direction versus those with more than one lane in each direction. These average lane capacities were increased by a factor of ten to convert them from peak period capacities to daily lane capacities. The final congestion thresholds for the SRA subset are 7,100 daily vehicles per lane for two-lane arterials, and 8,750 daily vehicles per lane for arterials with three or more lanes. 11

As with the expressway evaluation, it was necessary to account for additional lanes that were added to the SRA subset during the analysis period. The same process was used to "back out" lane additions from the current arterial network to achieve the correct number of lanes in previous years. Appendix B contains the list of arterial add-lanes projects that affected the SRA subset. Also, like the expressway analysis, all AADT on a link is classified as either congested or uncongested.

### Percentage of Congested Vehicle Miles

Figure 3-14 shows the percentage of congested vehicle miles traveled on the SRA subset in each summary area. As can be seen, all of the summary areas have larger percentages of congested SRA subset vehicle miles in the present than in the base year. Over one-half of the SRA subset vehicle miles traveled in both DuPage and Lake counties are congested in the present. DuPage County has the largest percentage of congested SRA subset vehicle miles in the base and mid years, while Lake County has the largest percentage in the present year.

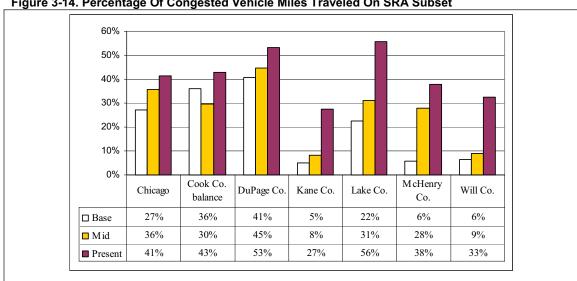


Figure 3-14. Percentage Of Congested Vehicle Miles Traveled On SRA Subset

Between the base year and the present, the proportion of congested SRA subset vehicle miles traveled increased the most in Lake and McHenry counties. The counties of Will and Kane also had relatively large increases in the percentage of vehicle miles traveled on the SRA subset that were congested during this period. The summary area with the largest increase in the proportion

<sup>&</sup>lt;sup>11</sup> Note: The number of lanes represents the combined total for each direction, as no links in the SRA subset are oneway (i.e. a two-lane arterial has one travel lane in each direction).

of congested vehicle miles between the base and mid years was McHenry County. During this same period, there was a decrease in the percentage of congested SRA subset vehicle miles traveled in the Cook County balance area. Finally, Lake County had the largest increase in the percentage of congested SRA subset vehicle miles between the mid year and the present.

## Average Annual Growth in Congested Vehicle Miles

To help illustrate the growth in congested vehicle miles traveled on the SRA subset, Figure 3-15 shows the average annual increases in congested SRA subset vehicle miles between the base year and the mid year, and the mid year and the present. McHenry County had the highest average annual increase in congested SRA subset vehicle miles between the base year and the mid year: over 81%. The Cook County balance area experienced an annual decrease in congested SRA subset vehicle miles during the first time period of just over 4%. Chicago and McHenry County were the only summary areas to experience higher annual increases during the first time period than the second. The average annual increases in congested vehicle miles traveled on the SRA subset for Lake County were almost identical during both time periods. During the second time period, the counties of Will and Kane had the highest annual congested SRA subset vehicle mile increases of approximately 55% and 50% respectively.

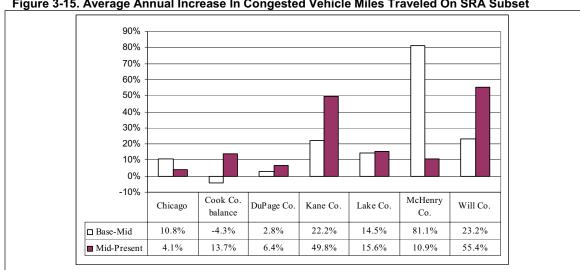


Figure 3-15. Average Annual Increase In Congested Vehicle Miles Traveled On SRA Subset

#### 3.2.3 **Congestion Severity**

As with the expressway congestion analysis, congestion on the SRA subset was categorized as either moderate or severe. Again, the threshold for severe congestion was set 20% higher than that used for moderate congestion. Thus, the severely congested threshold for the SRA subset was 8,500 daily vehicles per lane for two-lane arterials and 10,500 vehicles per lane for arterials with more than two lanes.

## Percentage of Congested Vehicle Miles by Congestion Category

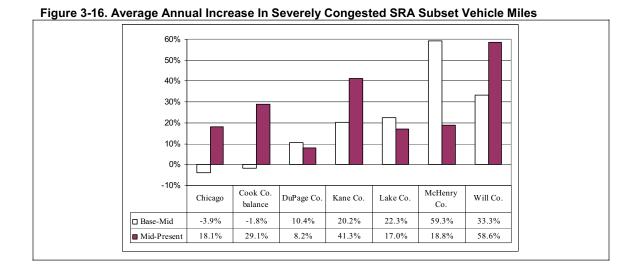
Table 3-7 shows the percentage of total SRA subset vehicle miles traveled that were moderately and severely congested in each of the data collection years. Adding these two percentages together yields the percentage of total congested vehicle miles on the SRA subset for a given year. For example, combining the amounts of moderately and severely congested vehicle miles for Chicago in the base year results in 27%, which corresponds to the congested vehicle miles traveled shown in Figure 3-14. Chicago had the largest percentage of severely congested SRA subset vehicle miles in the base year with its 17%, followed closely by DuPage County. By the present year, Lake and DuPage counties had the largest percentages of severely congested SRA subset vehicle miles with 31% and 25% respectively.

Table 3-7. Percentage Of Congested SRA Subset Vehicle Miles Traveled By Category

	Base	Year	Mid `	Year	Preser	nt Year
	Moderately	Severely	Moderately	Severely	Moderately	Severely
	Congested	Congested	Congested	Congested	Congested	Congested
Chicago	10%	17%	23%	13%	19%	23%
Cook Co. balance	27%	9%	21%	9%	25%	17%
DuPage Co.	27%	14%	25%	20%	28%	25%
Kane Co.	1%	4%	3%	6%	11%	16%
Lake Co.	12%	10%	15%	17%	25%	31%
McHenry Co.	2%	4%	14%	13%	14%	23%
Will Co.	4%	2%	5%	4%	17%	16%

## Average Annual Growth in Severely Congested Vehicle Miles

Figure 3-16 helps further explain the increases in severely congested SRA subset vehicle miles traveled shown in Table 3-7. This figure shows the average annual increase in the amount of severely congested vehicle miles on the SRA subset between the base and mid years, and between the mid and present years. Between the base and mid years, McHenry County experienced the largest annual increase in severely congested SRA subset vehicle miles: nearly 60%. During this period, Chicago and the Cook County balance area realized annual decreases in their amounts of severely congested SRA subset vehicle miles of 3.9% and 1.8% respectively. The remaining areas experienced average annual increases of 10.4% or more. Between the mid and present years, average annual increases in severely congested vehicle miles on the SRA subset ranged from 8.2% in DuPage County up to 58.6% in Will County.



## 3.3 Truck Traffic

It is meaningful to report trucks separately as they have different operating characteristics than autos. For instance, they occupy more physical space on the roadway, and have slower acceleration and deceleration rates than passenger cars. For an area such as Chicago, which has long been a major freight transportation hub, truck traffic is an important component of the traffic mix.

AADT counts for heavy commercial vehicles were collected for the years 1984, 1992 and 1996. The following vehicles are included in IDOT's heavy commercial vehicle count:

- 2-axle 6-tire trucks
- 3-axle single unit trucks
- huses
- tractor-semitrailer combinations
- large truck and trailer combinations
- two-trailer combinations

Pickup trucks, vans and panel trucks are not included in the heavy commercial vehicle counts<sup>12</sup>.

Heavy commercial vehicle AADT counts for 1996 were obtained from IDOT's IRIS database. Data for 1984 and 1992 were obtained from the "Average Daily Heavy Commercial Traffic Map" for the State Primary System prepared by IDOT for both years. Included in the State Primary System are interstate highways, United States highways, state highways and the tollway system. Clearly, this analysis cannot take into account all of the vehicle miles traveled by heavy commercial vehicles on local roads.

<sup>&</sup>lt;sup>12</sup> <u>Illinois Traffic Monitoring Program</u>. Illinois Department of Transportation, Office of Planning and Programming. July 1995, pp. 35 and B-1.

Figure 3-17 shows the sections of the State Primary System in northeastern Illinois with daily heavy commercial vehicle counts that were used in this analysis. Slightly thicker lines are used to differentiate the interstate highway system and the tollway system from other highways. The black lines on the map indicate highway links with heavy commercial vehicle AADT counts for all three of the analysis years. The gray lines show highway links that did not have counts for 1984 or 1992. Heavy commercial vehicle

AADT counts were available for the entire State Primary System for 1996. The AADT counts were used to calculate vehicle miles traveled for heavy commercial vehicles.

Table 3-8 displays the number of centerline miles included in the State Primary System in northeastern Illinois. The middle column of the table shows the number of centerline miles on the State Primary System that had heavy commercial vehicle AADT counts for all three of the analysis years: 1984, 1992 and 1996. The final column lists the percentage

Table 3-8. State Primary System Centerline Miles

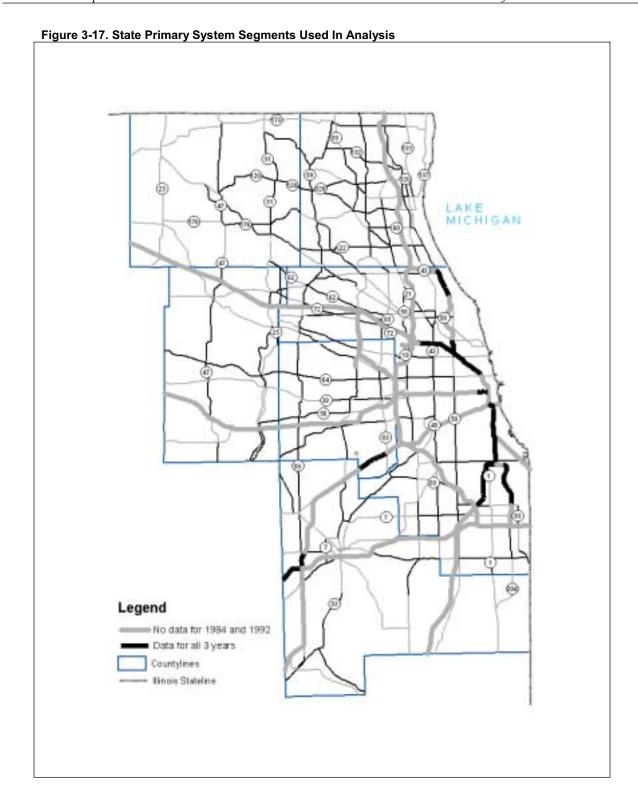
		All 3	
	Entire	Years of	
	System	Data	%
Chicago	144	75	52%
Cook Co. balance	571	241	42%
DuPage Co.	192	109	57%
Kane Co.	227	90	40%
Lake Co.	324	197	61%
McHenry Co.	200	88	44%
Will Co.	318	101	32%
TOTAL	1,976	901	46%

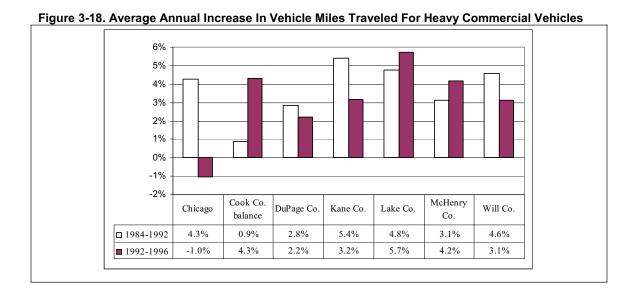
of the total system that contained data for all three years. As can be seen, 46% of the 1,976 total centerline miles contained AADT counts for all three years.

## 3.3.1 Vehicle Miles Traveled

### Average Annual Growth

Using the State Primary System segments with AADT counts for all three years (represented by the middle column in Table 3-8), the average annual percentage change in vehicle miles traveled for heavy commercial vehicles was calculated for two time periods: 1984-1992 and 1992-1996. These values are displayed in Figure 3-18. Four of the summary areas experienced a higher average annual increase in vehicle miles traveled during the 1984-1992 period than during the 1992-1996 period: Chicago, DuPage County, Kane County and Will County. Chicago actually experienced a small decline in the vehicle miles traveled by heavy commercial vehicles between 1992 and 1996. Kane County had the largest annual increase in vehicle miles traveled by these vehicles (5.4%) between 1984 and 1992. Lake County, McHenry County and the Cook County balance area all had higher annual growth rates between 1992 and 1996 than during the 1984-1992 period. Lake County had the highest annual increase in vehicle miles traveled by heavy commercial vehicles during this time frame with 5.7%.





### Total Vehicle Miles Traveled

As stated previously, 1996 heavy commercial vehicle AADT counts were available for the entire State Primary System. Using the vehicle miles traveled by heavy commercial vehicles in 1996 as a base, the growth rates shown in Figure 3-18 were used to "backcast" and develop estimates of vehicle miles traveled for the entire State Primary System for 1984 and 1992. These vehicle mile totals for heavy commercial vehicles are shown in Table 3-9.

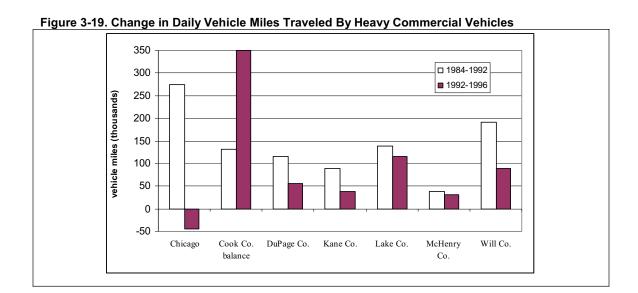
Table 3-9. Average Daily Vehicle Miles Traveled By Heavy Commercial Vehicles

	1984 Vehicle	1992 Vehicle	1996 Vehicle
	Miles Traveled*	Miles Traveled*	Miles Traveled
Chicago	800,766	1,075,123	1,030,734
Cook Co. balance	1,902,080	2,033,839	2,383,027
DuPage Co.	509,730	625,180	680,907
Kane Co.	206,900	296,588	334,143
Lake Co.	364,862	504,099	619,364
McHenry Co.	148,118	185,358	216,135
Will Co.	521,222	712,349	801,747
TOTAL	4,453,678	5,432,536	6,066,057
	*Estimated		

As can be seen, the Cook County balance area had the most daily vehicle miles traveled from heavy commercial vehicles in each of the years. Chicago had the second highest daily total each year, approximately one-half the amount of vehicle miles traveled in the Cook County balance area. When Chicago and the Cook County balance area are combined to represent all of Cook County, the daily vehicle mile total for heavy commercial vehicles in Cook County for 1984 (2.7 million) is 54% higher than the total of the other five counties combined (1.8 million). In 1996, the Cook County total (3.4 million daily vehicle miles) is nearly 29% higher than the total for the remaining five counties (2.7 million daily vehicle miles).

## Change from 1984-1992 and 1992-1996

Figure 3-19 shows the change in vehicle miles traveled by heavy commercial vehicles between 1984 and 1992, and between 1992 and 1996. The largest increase in vehicle miles traveled (over 274,000 additional daily vehicle miles) between 1984 and 1992 was in the CBD. The next largest increase during this time period was in Will County, where daily vehicle miles traveled by heavy commercial vehicles increased by over 190,000 daily vehicle miles. Between 1992 and 1996, the number of vehicle miles traveled by heavy commercial vehicles in the Cook County balance area increased by over 349,000 daily vehicle miles. The next largest increase was in Lake County; however, this increase was only one-third the size of that experienced in the Cook County balance area. Finally, the Cook County balance area was the only summary area that had a larger increase in vehicle miles traveled by heavy commercial vehicles during the 1992-1996 period than in the 1984-1992 period.



## 4 Travel Demand Model Results

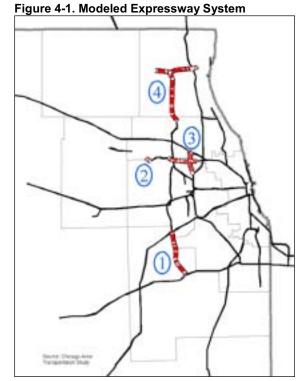
This section reports statistics derived from CATS' travel demand estimation models and highlights observations and trends in the data. Data from three model highway network years are used: 2002, 2007 and 2020. The year 2002 is used as a baseline to compare future predicted highway congestion levels against. Future highway networks are represented by the years 2007 and 2020. All data were obtained from CATS' 2000 Air Quality Conformity Analysis and the 2001 Supplemental Conformity Analysis using the existing airport improvements scenario.

## Model Highway Network

Two types of roadways are examined in this section: expressways and arterials. In CATS' model highway networks the category expressway includes the Interstate highways, toll highways and other access-controlled facilities with similar operating characteristics (such as the Elgin-O'Hare Expressway and portions of Lake Shore Drive, IL 38, IL 56, IL 83, the Amstutz Expressway and US 20). The expressway system defined in the model highway network includes more facilities and is somewhat larger than the one used to examine AADT counts in the previous section of this report.

Figure 4-1 shows the portion of the expressway system included in CATS' model network that lies within the CMS region. There are four projects indicated in Figure 4-1 that are either programmed in the fiscal year 2001-2006 Transportation Improvement Program or are planned in the 2020 Regional Transportation Plan that add new expressway facilities to the system. These are included in the modeled network based on their expected completion date, and will thus impact the data reported in this section. Descriptions of these projects and the modeled network year they first appear in are listed below. None of these new facilities are included in the 2002 highway network.

- 1. I-355 extension from I-55 to I-80 (2007).
- 2. Elgin-O'Hare Expressway extension from Hanover Park to Streamwood (2007).
- 3. O'Hare International Airport western bypass from I-294 to I-90; Elgin-O'Hare Expressway extension from IL 53 to bypass; O'Hare western access road (2020).
- 4. IL 53 extension from Lake-Cook Road to IL 120 and I-94 (2020).



Arterials, as defined in the model network, include all major and minor arterials, collectors and some important local roads. Roads used exclusively for local access are not included. The SRA system represents only a fraction of the arterial system in CATS' model highway networks. Table 4-1 provides a summary of the lane miles included in the CMS region for each modeled network year<sup>13</sup>. The left side of Table 4-1 summarizes the arterial and expressway lane miles for all three modeled years. The region has 21,923 arterial lane miles and 2,854 expressway lane miles in the 2002 network; these are forecast to increase to 22,568 and 3,358 lane miles respectively in 2020. The right side of Table 4-1 shows the total lane miles (arterial plus expressway) in each of the summary areas for all three modeled years. The Cook County balance area has the most lane miles of all summary areas in every year.

Table 4-1. Lane Mile Summary Of CMS Region

_	2002	2007	2020	_	2002	2007	2020
Arterials	21,923	22,494	22,568	CBD	445	447	447
Expressway	2,854	3,040	3,358	Chicago balance	3,321	3,357	3,376
			•	Cook Co. balance	6,959	7,138	7,184
				DuPage Co.	2,994	3,138	3,181
				Kane Co.	2,385	2,458	2,462
				Lake Co.	2,621	2,711	2,858
				McHenry Co.	2,201	2,252	2,271
				Will Co.	3,851	4,033	4,147
				TOTAL	24,777	25,534	25,926

### Congestion Methodology

The methodology used to measure congestion for data obtained from the travel demand estimation model differs somewhat from the one used for the AADT counts. As before, congestion is measured when the volume of vehicles on a roadway segment exceeds the capacity of the segment. Unlike AADT numbers, which represent a 24-hour count, CATS' travel demand estimation models separate the day into eight distinct time periods which can be analyzed separately. Thus, congested vehicle miles traveled are measured for each of the time periods and are summed to form a daily total. The eight time-of-day periods used in the travel demand models are:

Off Peak: 8:00 PM to 6:00 AM
 Pre AM Peak: 6:00 AM to 7:00 AM
 AM Peak: 7:00 AM to 9:00 AM
 Post AM Peak: 9:00 AM to 10:00 AM
 Midday: 10:00 AM to 2:00 PM
 Pre PM Peak: 2:00 PM to 4:00 PM
 PM Peak: 4:00 PM to 6:00 PM
 Post PM Peak: 6:00 PM to 8:00 PM

<sup>&</sup>lt;sup>13</sup> Note: This is not a lane mile summary for the entire modeled network, which extends beyond the CMS region.

## Truck Traffic

While the AADT counts used in the previous section were limited to heavy commercial vehicles, the travel demand model truck data encompasses a larger group of vehicles. The following four classifications of trucks are included in CATS' regional travel demand models:

- *B-plate* Gross weight up to 8,000 pounds (including vehicle and maximum load). These are commonly vans, pickups and two-axle small trucks.
- *Light* Gross weight of 8,001 to 28,000 pounds. These are mostly step vans, cargo trucks and panel trucks.
- *Medium* Gross weight of 28,001 to 64,000 pounds. These include straight trucks with three axles, buses and some articulated vehicles.
- *Heavy* Gross weight over 64,000 pounds. These include most articulated vehicles and some straight trucks such as concrete mixers.

The truck statistics reported in this section represent the combined totals of these four categories.

The remainder of the discussion of modeled data has four sections. The first provides an overview of the general trends in the data from 2002 to 2020. The remaining three sections provide a more in-depth look at the results from each of the individual modeled years. Discussion within each of these sections will focus on the following measures: vehicle miles and vehicle hours traveled, the severity of congestion and truck traffic. Further information on a specific modeled year may be obtained from Appendix C, which includes additional detailed data tables.

## 4.1 General Trends: 2002 to 2020

## 4.1.1 Vehicle Miles and Vehicle Hours Traveled

Between 2002 and 2020, total daily vehicle miles traveled for the CMS region are expected to increase from 146.3 million to 182.5 million. This represents a nearly 25% increase. Figure 4-2 shows the total vehicle miles traveled in each summary area for each of the three modeled years. The Cook County summary area has the largest number of vehicle miles in all three years, rising from 51.6 million in 2002 to 61.6 million in 2020. This increase of 10 million vehicle miles from 2002 to 2020 represents the largest increase in vehicle miles for a summary area in the region. Lake County has the second largest increase in vehicle miles with 6.3 million over this time period. DuPage County follows closely behind with an increase of 5.9 million vehicle miles.

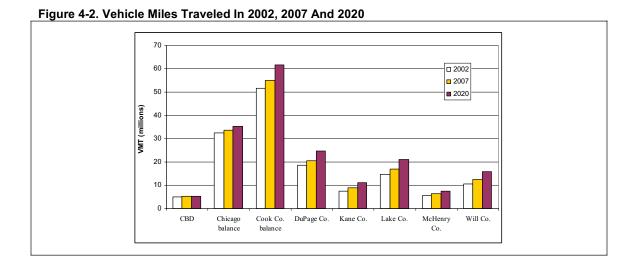


Table 4-2 shows the total congested daily vehicles miles traveled in 2002 and 2020 for each of the summary areas, as well as the increase between the two years. Congested vehicle miles in the region increase 64% between 2002 and 2020, from 16.8 million to 27.6 million. The Chicago balance and Cook County balance summary areas are expected to have the largest amounts of congested vehicle miles in 2020, with 9.2 million and 8.2 million respectively. The Cook County balance area is also expected to have the largest increase in congested vehicle miles during this time period: 3.8 million additional congested vehicle miles in 2020. Lake and DuPage counties are expected to have increases in congested vehicle miles of 2.2 million and 1.7 million respectively, meaning congested vehicle miles in these two areas will increase by nearly two and one-half times from 2002 to 2020.

Table 4-2. Growth In Congested Vehicle Miles, 2002 To 2020

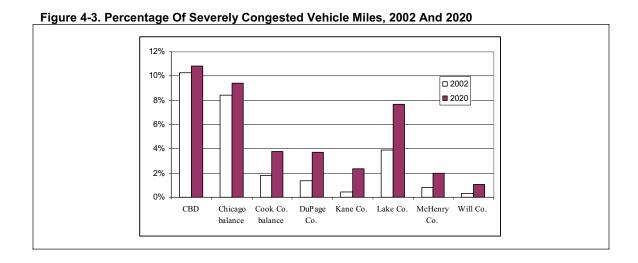
	2002 Congested Vehicle Miles	2020 Congested Vehicle Miles	Increase
CBD	1,510,051	1,703,790	193,739
Chicago balance	7,647,174	9,197,666	1,550,492
Cook Co. balance	4,450,835	8,232,871	3,782,036
DuPage Co.	1,147,293	2,810,582	1,663,289
Kane Co.	199,626	825,761	626,135
Lake Co.	1,555,657	3,802,961	2,247,304
McHenry Co.	138,565	461,473	322,908
Will Co.	191,697	578,969	387,272
TOTAL	16,840,898	27,614,073	10,773,175

Table 4-3 shows the total daily vehicle hours traveled for 2002 and 2020, and the percentage that are congested. In 2002 the Chicago balance area has the largest number of daily vehicle hours with over 2 million. The Cook County balance area is expected to surpass the Chicago balance area in 2020 as the summary area with the largest number of vehicle hours traveled. Over ½ of the vehicle hours traveled in the CBD and Chicago balance areas are congested in 2002 and are expected to be congested in 2020. The percentage of congested vehicle hours traveled in Lake County is expected to increase from 25% in 2002 to 42% in 2020.

	2002 Valaiala	0/	2020 Valsiala	0/
	2002 Vehicle Hours	% Congested	Vehicle Hours	% Congested
CBD	500,313	57%	558,519	60%
Chicago balance	2,252,717	54%	2,512,916	56%
Cook Co. balance	1,989,135	20%	2,611,614	30%
DuPage Co.	654,579	17%	970,292	30%
Kane Co.	226,660	6%	370,306	19%
Lake Co.	540,495	25%	905,572	42%
McHenry Co.	157,614	8%	233,133	18%
Will Co.	268,443	5%	420,759	11%
TOTAL	6,589,956	33%	8,583,111	39%

#### 4.1.2 **Congestion Severity**

Figure 4-3 shows the percentage of total vehicle miles traveled in each summary area that is severely congested in 2002 and 2020. The CBD has the largest percentage of severely congested vehicle miles in 2002 and 2020: 10.3% and 10.8% respectively. The Chicago balance area is a close second with 8.4% severely congested in 2002, rising to 9.4% in 2020. Lake County, which has the third highest percentage of severely congested vehicle miles, is the location of the largest increase in the proportion of vehicle miles traveled that are severely congested. It increases from just under 4% in 2002 to nearly 8% in 2020. DuPage County and the Cook County balance area have nearly identical percentages of severely congested vehicle miles traveled.



#### 4.1.3 **Truck Traffic**

Table 4-4 displays daily truck vehicle miles traveled in each summary area for 2002 and 2020. Total truck vehicle miles for the region are expected to increase over 38% from 2002 to 2020, from 25.1 million to 34.8 million. The Cook County balance area has the largest number of truck vehicle miles in 2002: nearly twice as many as the Chicago balance area, which has the

second largest amount. The Cook County balance summary area will see an increase in daily truck vehicle miles of nearly 2.9 million between 2002 and 2020. Lake County will experience the second largest increase in truck vehicle miles traveled (1.7 million) during this time period.

	2002 Truck	2020 Truck	
	Vehicle Miles	Vehicle Miles	Increase
CBD	681,260	708,866	27,606
Chicago balance	4,873,004	5,864,199	991,195
Cook Co. balance	9,938,386	12,808,084	2,869,698
DuPage Co.	3,965,745	5,370,221	1,404,476
Kane Co.	1,110,018	1,868,934	758,916
Lake Co.	2,249,547	3,998,619	1,749,072
McHenry Co.	665,611	1,231,864	566,253
Will Co.	1,668,900	2,970,290	1,301,390
TOTAL	25,152,471	34,821,077	9,668,606

## 4.2 Summary of 2002 Data

## 4.2.1 Vehicle Miles and Vehicle Hours Traveled

The following tables and figures summarize the data for the 2002 highway network, which serves as a baseline year to represent current congestion and roadway usage. Table 4-5 summarizes the daily vehicle miles and vehicle hours traveled on the region's arterials. Nearly 98 million vehicle miles are traveled daily on the arterials, which is approximately 5 million vehicle hours spent traveling. Twelve percent of the region's arterial vehicle miles for the region are congested, while 30% of the vehicle hours on arterials are congested. Put another way, it takes nearly 1.5 million vehicle hours to travel the 11.4 million congested vehicle miles. The remaining 3.5 million vehicle hours are used to travel the 86.3 million vehicle miles that are uncongested.

Table 4-5. 2002 Daily Arterial Vehicle Miles And Vehicle Hours

	Arterial Vehicle Miles Traveled	Congested Vehicle Miles Traveled	% Congested Vehicle Miles Traveled	Arterial Vehicle Hours Traveled	Congested Vehicle Hours Traveled	% Congested Vehicle Hours Traveled
CBD	2,417,415	638,194	26%	332,699	177,979	53%
Chicago balance	18,739,666	4,466,431	24%	1,467,045	687,619	47%
Cook Co. balance	33,811,452	3,419,323	10%	1,571,990	336,552	21%
DuPage Co.	12,658,310	1,002,597	8%	528,460	99,741	19%
Kane Co.	6,309,909	199,626	3%	206,170	14,470	7%
Lake Co.	11,762,372	1,371,693	12%	471,191	122,873	26%
McHenry Co.	5,264,560	138,565	3%	153,346	12,574	8%
Will Co.	6,756,122	165,870	2%	205,671	13,049	6%
TOTAL	97,719,806	11,402,299	12%	4,936,572	1,464,857	30%

The Cook County balance summary area has the largest amounts of daily arterial vehicle miles and vehicle hours in the region: 33.8 million and 1.6 million respectively. However, it is the Chicago balance area that has the largest number of congested arterial vehicle miles and vehicle hours, even though the Cook County balance area has nearly twice as many daily arterial vehicle miles. There are nearly 4.5 million congested vehicle miles daily in the Chicago balance summary area, which is 1 million more congested vehicle miles than in the Cook County balance area. The Chicago balance area also has twice as many congested vehicle hours as the Cook County balance area.

Table 4-6 displays daily vehicle miles and vehicle hours for expressways in the region. Total expressway vehicle miles traveled for the region are about ½ that of arterial vehicle miles. Eleven percent of the region's expressway vehicle miles are congested, which is nearly the same percentage as that for arterials. This translates into 44% of the region's expressway vehicle hours being congested, which is somewhat higher than the figure for arterials (30%). Examining the city of Chicago (comprised of the CBD and Chicago balance areas), one finds that two-thirds of the vehicle hours on expressways are congested. The summary area with the next highest percentage of congested vehicle hours is Lake County with 19%.

Table 4-6. 2002 Daily Expressway Vehicle Miles And Vehicle Hours

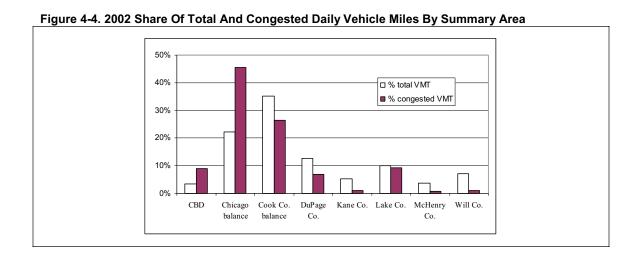
	Expressway Vehicle Miles Traveled	Congested Vehicle Miles Traveled	% Congested Vehicle Miles Traveled	Expressway Vehicle Hours Traveled	Congested Vehicle Hours Traveled	% Congested Vehicle Hours Traveled
CBD	2,626,221	871,857	33%	167,614	109,177	65%
Chicago balance	13,658,465	3,180,743	23%	785,672	524,485	67%
Cook Co. balance	17,746,540	1,031,512	6%	417,145	66,748	16%
DuPage Co.	6,034,960	144,696	2%	126,119	9,347	7%
Kane Co.	1,309,570	0	0%	20,490	0	0%
Lake Co.	3,093,369	183,964	6%	69,304	12,995	19%
McHenry Co.	303,288	0	0%	4,268	0	0%
Will Co.	3,846,585	25,827	1%	62,772	1,065	2%
TOTAL	48,618,998	5,438,599	11%	1,653,384	723,817	44%

Table 4-7 combines the arterial and expressway statistics in Tables 3-5 and 3-6 into total daily vehicle miles and vehicle hours for the region. One can see that the region's expressways carry 33% of the daily vehicle miles and 32% of daily congested vehicle miles. These same facilities contain 25% of daily vehicle hours but 33% of daily congested vehicle hours. The Chicago summary areas (CBD and Chicago balance areas) have relatively large percentages of congested vehicle miles and even larger percentages of congested vehicle hours compared to the remaining summary areas in the region.

			% Congested			% Congested
	Total Vehicle	Congested Vehicle Miles	Vehicle Miles	Total Vehicle	Congested Vehicle Hours	Vehicle Hours
	Miles Traveled	Traveled	Traveled	Hours Traveled	Traveled	Traveled
CBD	5,043,636	1,510,051	30%	500,313	287,156	57%
Chicago balance	32,398,131	7,647,174	24%	2,252,717	1,212,104	54%
Cook Co. balance	51,557,992	4,450,835	9%	1,989,135	403,300	20%
DuPage Co.	18,693,270	1,147,293	6%	654,579	109,088	17%
Kane Co.	7,619,479	199,626	3%	226,660	14,470	6%
Lake Co.	14,855,741	1,555,657	10%	540,495	135,868	25%
McHenry Co.	5,567,848	138,565	2%	157,614	12,574	8%
Will Co.	10,602,707	191,697	2%	268,443	14,114	5%
TOTAL	146.338.804	16.840.898	12%	6.589.956	2.188.674	33%

Table 4-7. 2002 Total Daily Vehicle Miles And Vehicle Hours

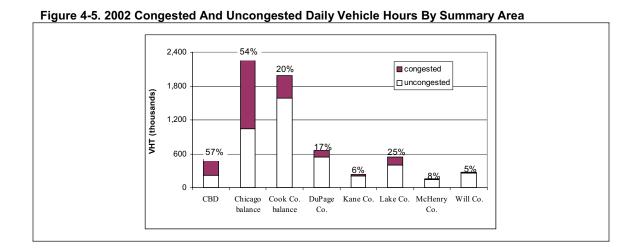
Figure 4-4 displays each summary area's share of the region's total daily vehicle miles and congested vehicle miles derived from Table 4-7. For instance, the CBD's 5 million vehicle miles represent 3.4% of the region's 146 million daily vehicle miles, and its 1.5 million congested vehicle miles make up 9% of the region's 16.8 million daily congested vehicle miles. As can be seen, the CBD and the Chicago balance areas are the only summary areas where the percentage of regional congested vehicle miles is greater than their percentage of total vehicle miles. Combining these two summary areas, one can see that Chicago contains over 25% of the region's daily vehicle miles and over 54% of the region's congested vehicle miles.



The group of summary areas with the next largest portions of vehicle miles and congested vehicle miles includes the Cook County balance area, DuPage County and Lake County. This group contains 58% of daily vehicle miles and 42% of the region's congested vehicle miles. The final group includes the counties of Kane, McHenry and Will, which together account for 16% of the region's vehicle miles but only 3% of the region's congested vehicle miles.

Figure 4-5 displays the congested and uncongested daily vehicle hours within each summary area. The height of each area's bar represents total daily vehicle hours for that area from Table

4-7. The shaded portion of the bar shows the amount of vehicle hours that are congested and the percentage this represents is labeled on the graph. Congested vehicle hours are more than 50% of total daily vehicle hours for both the CBD and the Chicago balance areas. The area with the next highest percentage is Lake, with 25%. The congested vehicle hours are 8% or less of total vehicle hours for Kane, McHenry and Will counties.



## 4.2.2 Congestion Severity

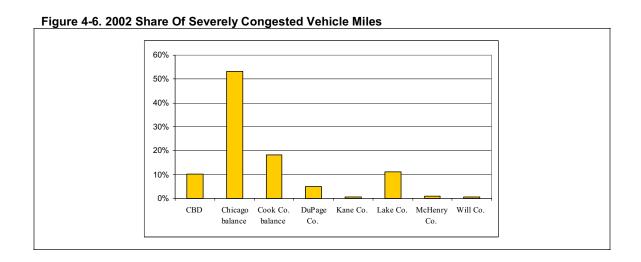
The previous section discussed congestion in terms of the amount of vehicle miles and vehicle hours experiencing congestion. This section addresses the issue of the severity of that congestion. All congested vehicle miles and vehicle hours were classified as either moderately congested or severely congested based on the volume-capacity ratio of the roadway segment. As previously stated, all congested segments had a volume-capacity ratio exceeding one. A volume-capacity ratio of 1.2 was used as a threshold to signify severe congestion. Thus, vehicle miles and vehicle hours on segments with a volume-capacity ratio greater than 1.2 are considered severely congested; segments with a volume-capacity ratio greater than one up to 1.2 are considered moderately congested.

Table 4-8 uses the 16.8 million congested vehicle miles and 2.2 million congested vehicle hours from Table 4-7 and separates them into the moderate and severe congestion categories. For the region, 30% (5.1 million) of the congested vehicle miles are severely congested. There are four summary areas where the severely congested vehicle miles are more than 30% of total congested vehicle miles: the CBD, Chicago balance, Lake County and McHenry County.

	Moderately Congested Vehicle Miles	Severely Congested Vehicle Miles	Moderately Congested Vehicle Hours	Severely Congested Vehicle Hours
CBD	992,081	517,970	121,256	165,900
Chicago balance	4,921,965	2,725,209	466,835	745,269
Cook Co. balance	3,515,321	935,514	268,323	134,977
DuPage Co.	891,726	255,567	71,282	37,806
Kane Co.	167,780	31,846	11,061	3,409
Lake Co.	977,574	578,083	68,106	67,762
McHenry Co.	93,010	45,555	6,673	5,901
Will Co.	159,351	32,346	10,177	3,937
TOTAL	11,718,808	5,122,090	1,023,713	1,164,961

Table 4.8. 2002 Vehicle Miles And Vehicle Hours By Congestion Cat

Figure 4-6 displays each summary area's share of the total severely congested vehicle miles for the region. The Chicago balance area contains over 50% of the region's severely congested vehicle miles. The Cook County balance summary area has 18% of the region's total and Lake County and the CBD contain 11% and 10% of the region's severely congested vehicle miles respectively. The remaining four counties (DuPage, Kane, McHenry and Will) together comprise 8% of the region's severely congested vehicle miles, with DuPage County having nearly twice as many severely congested vehicle miles as the other three counties combined.



Referring to Table 4-8, the CBD and Chicago balance summary areas have more severely congested vehicle hours than moderately congested ones. For the Chicago balance area, severely congested vehicle hours are one and one-half times the amount of moderately congested vehicle hours. In Lake County, the amounts of moderately and severely congested vehicle hours are nearly equal. The smallest proportion of severely congested vehicle hours to total congested vehicle hours is nearly 24% in Kane County.

## 4.2.3 Truck Traffic

Table 4-9 takes the total vehicle miles and congested vehicle miles from Table 4-7 and separates them into two vehicle categories: autos and trucks. Truck vehicle miles traveled represent 17% of total daily vehicle miles for the region. As shown in Table 4-9, the Cook County balance area has the largest amount of daily truck vehicle miles, with nearly 10 million. This is just over 19% of total vehicle miles for the Cook County balance summary area. The Chicago balance and DuPage County areas also have large amounts of truck vehicle miles: nearly 5 million and 4 million respectively. In DuPage County, trucks comprise over 21% of total daily vehicle miles. In the remaining summary areas, truck vehicle miles account for 12-16% of daily vehicle miles traveled.

Table 4-9. 2002 Daily Auto And Truck Vehicle Miles By Summary Area

	Auto Vehicle Miles Traveled	Congested Auto Vehicle Miles Traveled	Truck Vehicle Miles Traveled	Congested Truck Vehicle Miles Traveled	Total Vehicle Miles Traveled	Total Congested Vehicle Miles Traveled
CBD	4,362,376	1,310,309	681,260	199,742	5,043,636	1,510,051
Chicago balance	27,525,128	6,582,498	4,873,004	1,064,676	32,398,131	7,647,174
Cook Co. balance	41,619,606	3,731,534	9,938,386	719,301	51,557,992	4,450,835
DuPage Co.	14,727,526	981,805	3,965,745	165,488	18,693,270	1,147,293
Kane Co.	6,509,461	179,589	1,110,018	20,037	7,619,479	199,626
Lake Co.	12,606,193	1,393,715	2,249,547	161,940	14,855,741	1,555,657
McHenry Co.	4,902,238	124,067	665,611	14,498	5,567,848	138,565
Will Co.	8,933,807	169,197	1,668,900	22,500	10,602,707	191,697
TOTAL	121,186,335	14,472,714	25,152,471	2,368,182	146,338,804	16,840,898

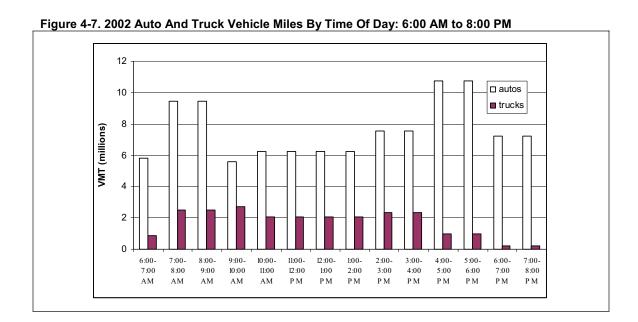
While Table 4-9 summarizes auto and truck vehicle miles on a daily basis, it may be useful to look at the distribution of vehicles throughout the day. Table 4-10 displays the region's auto and truck vehicle miles for each of the eight time-of-day periods. Trucks' share of total vehicle miles is smaller during the overnight, early morning and evening hours, and is larger during the rest of the day. For example, trucks make up 33% of total vehicle miles (arterial plus expressway) during period 4: 9:00 AM to 10:00 AM. Conversely, truck vehicle miles are only 3% of total vehicle miles from 6:00 PM to 8:00 PM.

Table 4-10. 2002 Auto And Truck Venicle Miles By	Tillie Of Day

	A 4 - 1/-  -! -   -	Tours Is Walting	T-4-1 V-6:-1-
	Auto Vehicle Miles Traveled	Truck Vehicle Miles Traveled	Total Vehicle Miles Traveled
01. 8:00 p.m. to 6:00 a.m.	15,022,546	1,158,275	16,180,821
02. 6:00 a.m. to 7:00 a.m.	5,797,674	861,274	6,658,948
03. 7:00 a.m. to 9:00 a.m.	18,849,660	5,034,668	23,884,328
04. 9:00 a.m. to 10:00 a.m.	5,595,997	2,733,970	8,329,967
05. 10:00 a.m. to 2:00 p.m.	24,880,932	8,341,882	33,222,814
06. 2:00 p.m. to 4:00 p.m.	15,050,985	4,693,050	19,744,035
07. 4:00 p.m. to 6:00 p.m.	21,508,972	1,916,435	23,425,407
08. 6:00 p.m. to 8:00 p.m.	14,479,569	412,917	14,892,486
TOTAL	121,186,335	25.152.471	146.338.806

Figure 4-7 charts auto and truck vehicle miles for one-hour slices of the day from 6:00 AM to 8:00 PM. Using the information from Table 4-10, the vehicle miles traveled in each time period

were divided by the number of hours in that time period to develop one-hour slices of the day. While this does remove some of the hourly variability in vehicle miles that occurs within time periods, it is still useful in showing the general pattern of vehicle miles throughout the day.



As shown in Figure 4-7, auto vehicle miles exhibit two peaks during the day, with the evening peak having more vehicle miles. Truck vehicle miles show a somewhat different pattern. Truck vehicle miles begin to peak between 7:00 AM and 8:00 AM (just as the auto vehicle miles are beginning to peak) and remain at a relatively constant level until 4:00 PM, the beginning of the evening peak for auto vehicle miles.

The amount of auto vehicle miles is much larger than truck vehicle miles in every hour of the day. There are twice as many auto vehicle miles as truck vehicle miles between 9:00 AM and 10:00 AM. During the 6:00 PM to 8:00 PM period the ratio between auto and truck vehicle miles increases to 35 to 1. Eighty-three percent of daily truck vehicle miles occur between 7:00 AM and 4:00 PM; the corresponding figure for auto vehicle miles is 53%. This time-of-day distribution pattern remains consistent in the future year modeled networks as well.

## 4.3 Summary of 2007 Data

### 4.3.1 Vehicle Miles and Vehicle Hours Traveled

The following tables display data from the 2007 model run. Table 4-11 summarizes the vehicle miles and vehicle hours traveled on the arterial system. Daily arterial vehicle miles are predicted to exceed 105 million, a 7.5% increase over the 2002 total. The data show that 13% of these vehicle miles are forecast to be congested, which is a slightly higher proportion than in 2002. The number of congested arterial vehicle miles in 2007 is expected to increase approximately 17% over 2002. Arterial vehicle hours are predicted to be nearly 5.4 million in 2007, 9% higher

than the 2002 figure. The percentage of arterial vehicle hours that are congested is expected to increase from 30% in 2002 to 32% in 2007.

Table 4-11. 2007 Daily Arterial Vehicle Miles And Vehicle Hours

	Arterial Vehicle Miles Traveled	Congested Vehicle Miles Traveled	% Congested Vehicle Miles Traveled	Arterial Vehicle Hours Traveled	Congested Vehicle Hours Traveled	% Congested Vehicle Hours Traveled
CBD	2,514,829	702,151	28%	354,384	195,895	55%
Chicago balance	19,502,049	4,787,397	25%	1,550,952	745,185	48%
Cook Co. balance	35,214,675	3,920,589	11%	1,658,689	384,182	23%
DuPage Co.	13,584,373	1,208,210	9%	578,279	122,407	21%
Kane Co.	7,222,814	268,587	4%	239,829	20,818	9%
Lake Co.	13,429,198	2,039,386	15%	586,109	198,076	34%
McHenry Co.	5,959,492	184,055	3%	176,452	16,101	9%
Will Co.	7,664,538	184,892	2%	234,031	13,730	6%
TOTAL	105.091.968	13.295.267	13%	5,378,725	1.696.394	32%

Figure 4-8 displays the increase in congested arterial vehicle miles traveled expected for each summary area between 2002 and 2007. The percentage increase in congested vehicle miles is also listed for each area. Lake County is predicted to have the largest increase in congested arterial vehicle miles during this period. The expected increase is nearly 670,000 congested vehicle miles, a 49% increase over 2002. Lake County is also forecast to experience the largest increase in congested arterial vehicle hours between 2002 and 2007: an additional 75,000 hours representing a 61% increase. The second largest increase in congested vehicle miles traveled is expected for the Cook County balance area, which is predicted to have an increase of 500,000 congested vehicle miles.

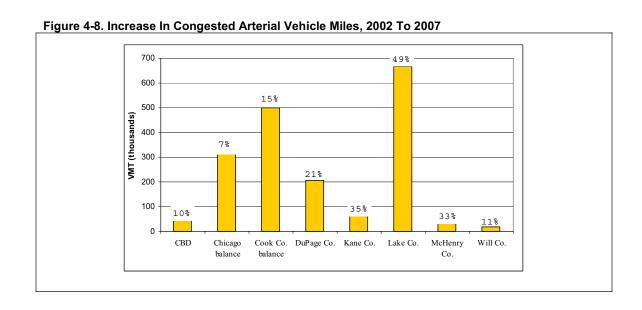


Table 4-12 provides expressway vehicle miles and vehicle hours data for 2007. Expressway vehicle miles traveled are forecast to increase by over 5 million from 2002 to 2007. Congested expressway vehicle miles are predicted to increase from 5.4 million to 5.9 million during this period. The percentage of congested expressway vehicle miles is predicted to remain the same in 2002 as in 2007 (11%). Expressway vehicle miles in Will County are predicted to increase by nearly 1 million vehicle miles from 2002 to 2007; however, congested expressway vehicle miles in this area are predicted to decrease 16% during this period. The addition of the I-355 extension in Will County to the model network (as referenced in Figure 4-1) has a large impact on the increase in expressway vehicle miles and the decrease in congested expressway vehicle miles in this county.

Table 4-12. 2007 Daily Expressway Vehicle Miles And Vehicle Hours

	Expressway Vehicle Miles Traveled	Congested Vehicle Miles Traveled	% Congested Vehicle Miles Traveled	Expressway Vehicle Hours Traveled	Congested Vehicle Hours Traveled	% Congested Vehicle Hours Traveled
CBD	2.658.026	1.009.350	38%		120.610	69%
Chicago balance	14,160,368	3,307,724	23%	,	462,423	63%
Cook Co. balance	19,781,286	1,075,136	5%	470,112	68,508	15%
DuPage Co.	6,859,767	235,420	3%	147,784	14,217	10%
Kane Co.	1,557,204	0	0%	25,226	0	0%
Lake Co.	3,479,537	294,637	8%	88,083	24,865	28%
McHenry Co.	373,291	0	0%	5,421	0	0%
Will Co.	4,782,733	21,699	0%	80,478	1,120	1%
TOTAL	53.652.212	5.943.966	11%	1,731,280	691.743	40%

While total expressway vehicle hours are predicted to increase to over 1.7 million in 2007, congested expressway vehicle hours are forecast to actually decrease over 4% from 2002 to 2007. The only summary area that experiences a reduction in congested vehicle hours is the Chicago balance area; congested expressway vehicle hours are expected to drop by over 62,000, a reduction of nearly 12% from 2002. This area comprises the largest portion of congested expressway vehicle hours in the region and its decrease more than offsets increases in other summary areas to lower the regional total. As in 2002, Kane and McHenry counties are not predicted to have any congested expressway vehicle hours in 2007. Large increases in congested expressway vehicle hours are forecast for DuPage County (52%) and Lake County (91%). Relatively smaller increases (under 11%) are predicted for the CBD, Cook County balance and Will County.

Table 4-13 shows the combined arterial and expressway figures for 2007. Examining Table 4-13 for each summary area's share of regional vehicle miles and congested vehicle miles, one finds essentially the same pattern as that shown in Figure 4-4 for 2002 data. In other words, each summary area's 2007 share of total daily vehicle miles remains virtually the same as in 2002. In fact, none of the area's shares of total vehicle miles are predicted to change by more than one percentage point from 2002. A similar pattern is seen in the shares of daily congested vehicle miles. Most of the summary area's shares do not change by more than one percentage point from 2002 to 2007. The two exceptions are the Chicago balance area (whose share decreases by over 3%) and the Lake County area (whose share increases by 3%).

			%			
			Congested			Congested
		Congested	Vehicle		Congested	Vehicle
	Total Vehicle	Vehicle Miles	Miles	Total Vehicle	Vehicle Hours	Hours
	Miles Traveled	Traveled	Traveled	<b>Hours Traveled</b>	Traveled	Traveled
CBD	5,172,855	1,711,501	33%	528,740	316,505	60%
Chicago balance	33,662,417	8,095,121	24%	2,290,772	1,207,608	53%
Cook Co. balance	54,995,961	4,995,725	9%	2,128,801	452,690	21%
DuPage Co.	20,444,140	1,443,630	7%	726,063	136,624	19%
Kane Co.	8,780,018	268,587	3%	265,055	20,818	8%
Lake Co.	16,908,735	2,334,023	14%	674,192	222,941	33%
McHenry Co.	6,332,783	184,055	3%	181,873	16,101	9%
Will Co.	12,447,271	206,591	2%	314,509	14,850	5%

Table 4-13. 2007 Total Daily Vehicle Miles And Vehicle Hours

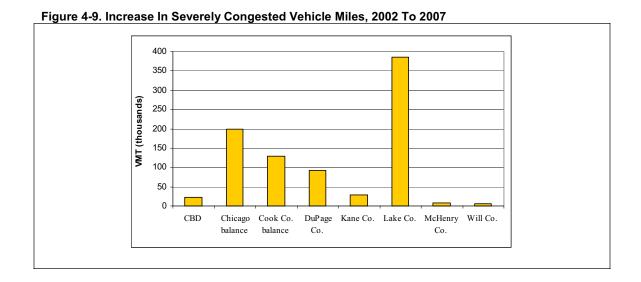
Every summary area is expected to have an increase in the daily vehicle hours traveled between 2002 to 2007. Total congested vehicle hours are also predicted to increase between 2002 and 2007 for every summary area except the Chicago balance. This area is forecast to have a slight (less than 1%) decrease in daily congested vehicle hours in 2007. Lake County is predicted to experience an increase in congested vehicle hours of eight percentage points, from 25% to 33%. The other summary areas showing an increased percentage of congested daily vehicle hours are expected to have increases of three percentage points or less.

## 4.3.2 Congestion Severity

Table 4-14 examines the severity of congestion in the summary areas. The congested vehicle miles and vehicle hours traveled from Table 4-13 are separated into moderately and severely congested categories. Moderately congested vehicle miles in the region are forecast to increase to 13.2 million, up from 11.7 million in 2002. In 2007 the total number of severely congested vehicle miles is expected to rise to nearly 6 million, up from 5.1 million in 2002. The total number of moderately congested vehicle hours increases by almost 122,000 between 2002 and 2007. During the same period, the severely congested vehicle hours increase by over 77,000. As in 2002, the Chicago balance area has the largest amounts of moderately and severely congested vehicle miles and vehicle hours.

Table 4-14. 2007 Vehicle Miles And Ve	ehicle Hou	rs By Con	gestion Ca	tegory
	Moderately	Severely	Moderately	Severely
	Congested	Congested	Congested	Congested
	Vehicle Miles	Vehicle Miles	Vehicle Hours	Vehicle Hours
CBD	1,171,662	539,840	136,857	179,650
Chicago balance	5,170,193	2,924,928	488,824	718,781
Cook Co. balance	3,931,023	1,064,702	302,528	150,162
DuPage Co.	1,096,190	347,440	85,256	51,368
Kane Co.	208,403	60,184	14,347	6,472
Lake Co.	1,370,574	963,449	97,781	125,161
McHenry Co.	130,164	53,891	9,210	6,890
Will Co.	168,948	37,642	10,891	3,959
TOTAL	13,247,157	5,992,076	1,145,694	1,242,443

Figure 4-9 takes a closer look at where the growth in severely congested vehicle miles is occurring between 2002 and 2007. By far, the largest increase in severely congested vehicle miles is seen in Lake County. Nearly 400,000 additional severely congested vehicle miles are experienced daily in this summary area over 2002 levels. The Chicago balance area has the second largest increase in severely congested vehicle miles at 200,000, but it is only around one-half the size of the increase in Lake County. On the other end of the scale, McHenry and Will counties are expected to have the smallest increases in severely congested vehicle miles, with 8,000 and 5,000 respectively.



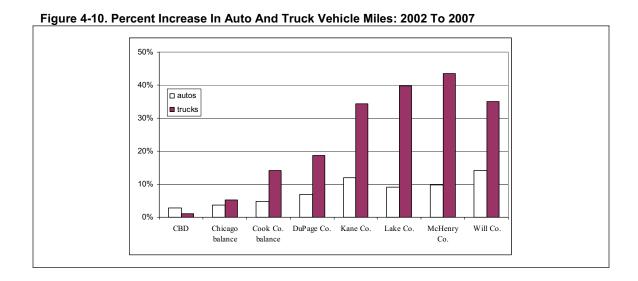
### 4.3.3 Truck Traffic

Table 4-15 displays the total daily auto and truck vehicle miles for the region in 2007. As with Table 4-7, this includes arterial and expressway vehicle miles. Total vehicle miles are expected to be over 158.7 million vehicle miles in 2007. This is an 8.5% increase over 2002. Truck vehicle miles are predicted to comprise nearly 19% of total vehicle miles, a slight increase over 2002 in the proportion of total vehicle miles attributed to trucks.

	Auto Vehicle Miles Traveled	Congested Auto Vehicle Miles Traveled	Truck Vehicle Miles Traveled	Congested Truck Vehicle Miles Traveled	Total Vehicle Miles Traveled	Total Congested Vehicle Miles Traveled
CBD	4,484,869	1,477,971	687,987	233,531	5,172,856	1,711,501
Chicago balance	28,537,371	6,937,696	5,125,046	1,157,426	33,662,417	8,095,121
Cook Co. balance	43,651,957	4,133,649	11,344,003	862,076	54,995,960	4,995,725
DuPage Co.	15,738,547	1,206,774	4,705,592	236,856	20,444,139	1,443,630
Kane Co.	7,288,222	237,373	1,491,796	31,213	8,780,018	268,587
Lake Co.	13,762,680	1,998,389	3,146,055	335,634	16,908,735	2,334,023
McHenry Co.	5,377,242	162,900	955,542	21,155	6,332,784	184,055
Will Co.	10,194,728	183,593	2,252,543	22,997	12,447,271	206,591
TOTAL	129,035,616	16,338,345	29,708,564	2,900,888	158,744,180	19,239,233

Table 4-15. 2007 Daily Auto And Truck Vehicle Miles By Summary Area

Truck vehicle miles are predicted to become a larger portion of total vehicle miles in 2007 in seven of the eight summary areas. The exception is the CBD, where the percentage remains essentially the same. Truck vehicle miles in DuPage County are forecast to rise from 21% of total vehicle miles to 23%; in Lake County the percentage is predicted to rise from 15% to nearly 19%. As shown in Figure 4-10, truck vehicle miles are expected to increase faster than auto vehicle miles between 2002 and 2007 in every summary area but the CBD. The largest percentage increases in truck vehicle miles are expected to occur in Kane, Lake, McHenry and Will counties, all of which expect 34% growth or more in truck vehicle miles. These four counties are also expected to have the largest growth in auto vehicle miles, which ranges from 9% to 14%.



In Table 4-16, 2007 auto and truck vehicle miles are shown for eight daily time periods. For the region, auto vehicle miles are forecast to increase 6.5% between 2002 and 2007, and truck vehicle miles are predicted to increase 18%. As with the 2002 data, auto vehicle miles are predicted to be much higher than truck vehicle miles in every time period in 2007. However, the

ratio between auto and truck vehicle miles for each period is expected to decrease from 2002 to 2007, reflecting more growth in truck vehicle miles than auto vehicle miles. For instance, in 2002 auto vehicle miles were 35 times greater than truck vehicle miles during the 6:00 PM to 8:00 PM period; in 2007 the ratio is predicted to be 32 to 1.

Table 4-16. 2007 Auto And Truck Ve	hicle Miles By Time Of Day
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	Auto Vehicle	Truck Vehicle	<b>Total Vehicle</b>
	Miles Traveled	Miles Traveled	Miles Traveled
01. 8:00 p.m. to 6:00 a.m.	16,062,301	1,337,393	17,399,694
02. 6:00 a.m. to 7:00 a.m.	6,192,173	1,012,840	7,205,013
03. 7:00 a.m. to 9:00 a.m.	20,152,045	5,936,438	26,088,483
04. 9:00 a.m. to 10:00 a.m.	5,948,875	3,231,329	9,180,204
05. 10:00 a.m. to 2:00 p.m.	26,312,967	9,850,973	36,163,940
06. 2:00 p.m. to 4:00 p.m.	15,995,384	5,577,597	21,572,981
07. 4:00 p.m. to 6:00 p.m.	22,932,234	2,279,234	25,211,468
08. 6:00 p.m. to 8:00 p.m.	15,439,637	482,760	15,922,397
TOTAL	129,035,616	29,708,564	158,744,180

## 4.4 Summary of 2020 Data

## 4.4.1 Vehicle Miles and Vehicle Hours Traveled

In 2020 daily arterial vehicle miles for the region are predicted to exceed 119 million, as shown in Table 4-17. This represents a nearly 22% increase in arterial vehicle miles from 2002. Daily congested vehicle miles on the arterials are expected to increase by over 8 million between 2002 and 2020, an increase of 71%. Congested vehicle miles are expected to make up 16% of total arterial vehicle miles in 2020, up from 12% in 2002.

Table 4-17. 2020 Daily Arterial Vehicle Miles And Vehicle Hours

	Arterial Vehicle Miles Traveled	Congested Vehicle Miles Traveled	% Congested Vehicle Miles Traveled	Arterial Vehicle Hours Traveled	Congested Vehicle Hours Traveled	% Congested Vehicle Hours Traveled
CBD	2,615,999	748,848	29%	374,076	209,636	56%
Chicago balance	20,618,271	5,531,641	27%	1,695,909	862,513	51%
Cook Co. balance	39,251,858	6,138,750	16%	2,003,226	632,088	32%
DuPage Co.	15,698,206	2,223,509	14%	755,872	249,402	33%
Kane Co.	9,053,900	755,780	8%	331,798	65,639	20%
Lake Co.	15,149,397	3,125,696	21%	743,067	327,781	44%
McHenry Co.	7,012,634	461,473	7%	225,360	41,803	19%
Will Co.	9,667,342	471,134	5%	314,268	39,443	13%
TOTAL	119,067,607	19,456,831	16%	6,443,576	2,428,305	38%

The two summary areas comprising Chicago (the CBD and Chicago balance areas) are expected to have the largest percentages of congested arterial vehicle miles: over ¼ of daily arterial vehicle miles will be congested. More than ½ of the daily arterial vehicle hours will be

congested as well. Lake County is predicted to closely follow these summary areas in 2020, with over 20% of its arterial vehicle miles and 44% of its arterial vehicle hours expected to be congested. Total congested vehicle hours for the region are predicted to increase to 38% of daily arterial vehicle hours in 2020.

Table 4-18 displays daily vehicle miles and vehicle hours traveled on the expressways in 2020. Daily expressway vehicle miles for the region are expected to increase to 63.4 million in 2020, up from 48.6 million in 2002. Expressway vehicle hours will increase by 486,000 from 2002 to 2020, to over 2.1 million daily. Forty-three percent of daily expressway vehicle hours for the region will be congested, as will 13% of daily expressway vehicle miles traveled.

Table 4-18. 2020 Daily Expressway Vehicle Miles And Vehicle Hours

		% Congeste				
	Expressway Vehicle MilesTraveled	Congested Vehicle Miles Traveled	Vehicle Miles Traveled	Expressway Vehicle Hours Traveled	Congested Vehicle Hours Traveled	Vehicle Hours Traveled
CBD	2,686,774	954,942	36%	184,443	125,411	68%
Chicago balance	14,766,548	3,666,025	25%	817,007	532,297	65%
Cook Co. balance	22,384,671	2,094,121	9%	608,388	148,943	24%
DuPage Co.	8,935,752	587,073	7%	214,420	39,249	18%
Kane Co.	2,091,780	69,981	3%	38,508	3,519	9%
Lake Co.	5,964,212	677,265	11%	162,505	55,663	34%
McHenry Co.	522,442	0	0%	7,773	0	0%
Will Co.	6,056,209	107,835	2%	106,491	6,905	6%
TOTAL	63.408.388	8.157.242	13%	2,139,535	911.987	43%

Table 4-19 combines the 2020 vehicle mile and vehicle hour totals from Tables 3-17 and 3-18 into total values for the region. As in 2002 and 2007, the Chicago balance area has the largest number of congested vehicle miles and congested vehicle hours of all of the summary areas. Conversely, McHenry County has the smallest number of congested vehicle miles and congested vehicle hours in the region. To compare the two areas: the Chicago balance area will have 20 times as many congested vehicle miles and 33 times as many congested vehicle hours as McHenry County in 2020.

Table 4-19. 2020 Total Daily Vehicle Miles And Vehicle Hours

			% Congested			% Congested
	Total Vehicle Miles Traveled	Congested Vehicle Miles Traveled	Vehicle Miles Traveled	Total Vehicle Hours Traveled	Congested Vehicle Hours Traveled	Vehicle Hours Traveled
CBD	5,302,773	1,703,790	32%	558,519	335,047	60%
Chicago balance	35,384,819	9,197,666	26%	2,512,916	1,394,810	56%
Cook Co. balance	61,636,529	8,232,871	13%	2,611,614	781,031	30%
DuPage Co.	24,633,958	2,810,582	11%	970,292	288,651	30%
Kane Co.	11,145,680	825,761	7%	370,306	69,158	19%
Lake Co.	21,113,609	3,802,961	18%	905,572	383,444	42%
McHenry Co.	7,535,076	461,473	6%	233,133	41,803	18%
Will Co.	15,723,551	578,969	4%	420,759	46,348	11%
TOTAL	182,475,995	27.614.073	15%	8.583.111	3,340,292	39%

Figure 4-11 displays the growth in vehicle miles and vehicle hours traveled from 2002 to 2020 using data from Tables 3-7 and 3-19. The increases in total vehicle miles and vehicle hours are shown separately from the growth of congested vehicle miles and hours. Total vehicle miles traveled for the region will increase nearly 25% between 2002 and 2020. At the same time, the growth in congested vehicle miles is expected to be 64%. Total vehicle hours traveled will increase 30% from 2002 to 2020, while the number of congested vehicle hours will increase 52% during the same period.

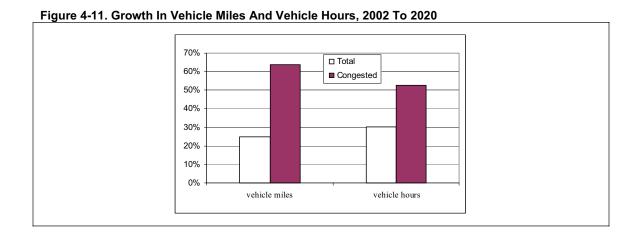
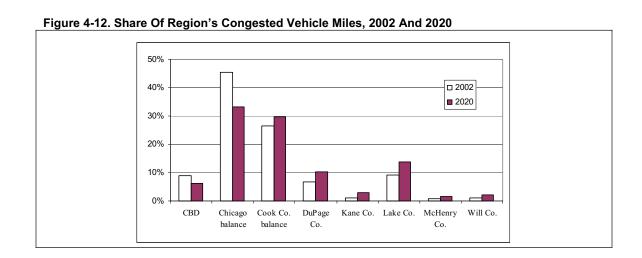


Figure 4-12 shows each summary area's share of the region's daily congested vehicle miles in 2002 and 2020. The CBD and Chicago balance areas both show a decline in their portions of the region's congested vehicle miles from 2002 to 2020. These two summary areas contained over 54% of the region's congested vehicle miles in 2002; in 2020 their combined share will be just under 40% of the regional total. The Cook County balance area and the Chicago balance area will have nearly equal shares of the region's vehicle miles in 2020. In 2002 the Chicago balance area's share was 19 percentage points higher than that of the Cook County balance area. Kane, McHenry and Will counties all double their shares of congested vehicle miles between 2002 and 2020.



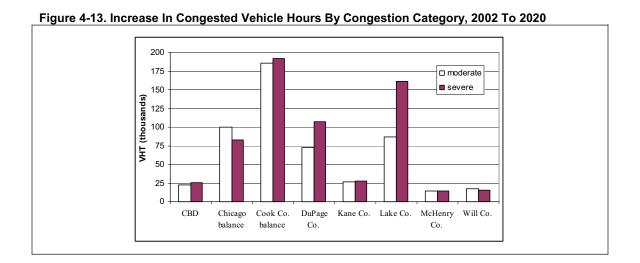
## 4.4.2 Congestion Severity

The congested vehicle miles and vehicle hours traveled from Table 4-19 are separated into moderately and severely congested categories in Table 4-20. As can be seen,  $^{1}/_{3}$  of the congested vehicle miles traveled in the region in 2020 will be severely congested. Between 2002 and 2020, the number of moderately congested vehicle miles is forecast to rise from 11.7 million to 18.3 million daily. During the same period, severely congested daily vehicle miles are expected to increase by nearly 83%, from 5.1 million to 9.3 million. The largest increases in severely congested vehicle miles are expected in Lake County and the Cook County balance summary area. The severely congested daily vehicle miles in both areas will increase by more 1 million from 2002 to 2020.

Table 4-20. 2020 Vehicle Miles And Vehicle Hours By Congestion Category

	Moderately Congested Vehicle Miles	Severely Congested Vehicle Miles	Moderately Congested Vehicle Hours	Severely Congested Vehicle Hours
CBD	1,130,989	572,802	143,959	191,088
Chicago balance	5,865,651	3,332,014	566,740	828,071
Cook Co. balance	5,893,421	2,339,451	454,358	326,673
DuPage Co.	1,901,012	909,570	143,964	144,687
Kane Co.	563,784	261,976	37,755	31,403
Lake Co.	2,180,077	1,622,884	154,335	229,108
McHenry Co.	312,872	148,601	21,351	20,452
Will Co.	418,002	160,967	27,388	18,960
TOTAL	18,265,808	9,348,265	1,549,850	1,790,442

Table 4-20 shows that over one-half of the congested vehicle hours spent driving in 2020 will be severely congested. Figure 4-13 shows how much each summary area's moderately and severely congested vehicle hours traveled increase between 2002 and 2020. The Cook County balance summary area has the largest increases in both categories of congested vehicle hours: over 186,000 more moderately congested vehicle hours and nearly 192,000 additional severely congested vehicle hours. Five of the eight summary areas show more growth in severely congested vehicle hours than in moderately congested ones. The exceptions are McHenry County, Will County and the Chicago balance summary areas. Lake County has the greatest difference in the amount of growth in moderately and severely congested vehicle hours: the increase in severely congested vehicle hours is over 75,000 more than the increase in moderately congested vehicle hours.



### 4.4.3 Truck Traffic

Table 4-21 displays daily auto and truck vehicle miles traveled in 2020 for each summary area. Daily truck vehicle miles for the region will total 34.8 million, an increase of nearly 9.7 million over 2002. The Cook County balance summary area will experience the largest increase in truck vehicle miles over 2002: 2.8 million. DuPage, Lake and Will counties will also have increases in truck vehicle miles that are over 1 million. The largest increase in daily congested truck vehicle miles traveled also occurs in the Cook County balance summary area. This number doubles between 2002 and 2020 to 1.4 million and is nearly equal to the congested truck vehicle miles for the Chicago balance summary area.

Table 4-21. 2020 Daily Auto And Truck Vehicle Miles By Summary Area

	Auto Vehicle Miles Traveled	Congested Auto Vehicle Miles Traveled	Truck Vehicle Miles Traveled	Congested Truck Vehicle Miles Traveled	Total Vehicle Miles Traveled	Total Congested Vehicle Miles Traveled
CBD	4,593,906	1,473,951	708,866	229,839	5,302,772	1,703,790
Chicago balance	29,520,620	7,731,800	5,864,199	1,465,865	35,384,819	9,197,665
Cook Co. balance	48,828,446	6,794,418	12,808,084	1,438,455	61,636,530	8,232,873
DuPage Co.	19,263,737	2,375,475	5,370,221	435,106	24,633,958	2,810,581
Kane Co.	9,276,746	727,677	1,868,934	98,084	11,145,680	825,761
Lake Co.	17,114,990	3,204,611	3,998,619	598,350	21,113,609	3,802,961
McHenry Co.	6,303,212	406,892	1,231,864	54,581	7,535,076	461,473
Will Co.	12,753,261	516,825	2,970,290	62,144	15,723,551	578,969
TOTAL	147,654,918	23,231,649	34,821,077	4,382,424	182,475,995	27,614,073

A comparison of each summary area's share of regional truck vehicle miles traveled in 2002 and 2020 is shown in Figure 4-14. The summary areas with the largest portions of 2002 truck vehicle miles are the Cook County balance area, the Chicago balance area and DuPage County. These three areas also have the largest shares in 2020; however, their portions decline between 2002 and 2020. The CBD is the only other summary area with a declining share between 2002 and 2020. The remaining four areas of Kane, Lake, McHenry and Will counties all claim a larger share of regional truck vehicle miles traveled in 2020 than in 2002. The combined share

for these four counties increases from nearly 23% of the region's truck vehicle miles in 2002 to 29% in 2020.

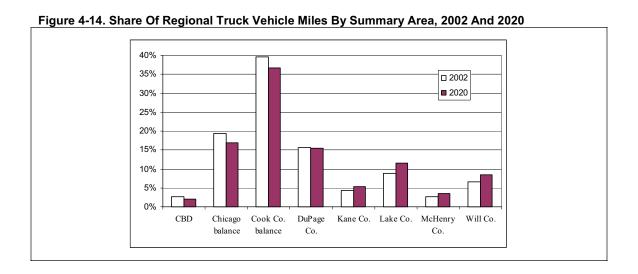


Table 4-22 shows the 2020 auto and truck vehicle miles for each of the eight daily time periods. Comparing Table 4-22 to Table 4-10, one can see that the amount of auto and truck vehicle miles traveled increases in each time period between 2002 and 2020. In 2020 truck vehicle miles are expected to comprise over 19% of total vehicle miles traveled, up from 17% in 2002. In fact, 2020 truck vehicles miles make up a larger share of total vehicle miles in all of the eight time periods.

Table 4-22. 2020 Auto And Truck Vehicle M	iles By Time	Of Day	
			Total Arterial
	Auto Vehicle	Truck Vehicle	Vehicle Miles
	Miles Traveled	Miles Traveled	Traveled
01. 8:00 p.m. to 6:00 a.m.	18,318,319	1,645,961	19,964,280
02. 6:00 a.m. to 7:00 a.m.	7,156,539	1,182,840	8,339,379
03. 7:00 a.m. to 9:00 a.m.	23,129,825	6,856,171	29,985,996
04. 9:00 a.m. to 10:00 a.m.	6,809,375	3,789,084	10,598,459
05. 10:00 a.m. to 2:00 p.m.	30,212,282	11,592,738	41,805,020
06. 2:00 p.m. to 4:00 p.m.	18,417,289	6,518,704	24,935,993
07. 4:00 p.m. to 6:00 p.m.	26,130,853	2,659,124	28,789,977
08. 6:00 p.m. to 8:00 p.m.	17,480,436	576,455	18,056,891
TOTAL	147,654,918	34,821,077	182,475,995

# Appendix A

Sample of Expressway, SRA Subset and Truck Analysis Data

## **Collection of Expressway Data**

The original source of the expressway AADT data was the CATS Travel Atlases for 1995 and 2000 (TSC and ISTHA data). From these atlases the 1995 and 2000 VMT were collected. The 1990 CATS Travel Atlas was used as a source for 1990 AADTs. Comparison of the 1990 and 1995 link AADTs resulted in the construction of ratios that represented the traffic growth from 1990 to 1995.

In areas that did not have surveillance from TSC or ISTHA, county traffic maps were used as a source of traffic counts. When traffic counts from maps were available for all three analysis years, it was not necessary to create a ratio of 1990-1995 AADTs.

The CATS Master Highway Network (MHN) coverage was used as the base of this analysis and all traffic information was appended to this databank.

There was not a direct correspondence between the links in the MHN and the Travel Atlas. In order to integrate the Atlas data with the MHN coverage, groups of links were aggregated into segments that were generally 3 to 4 miles in length. The VMT from the Atlas was then applied to the matching MHN segment.

The dataset for the calculation of the 1990-1995 volume ratios has over 2000 observations. The complete dataset is available from CATS. Table A-1 is a sample of the data from the CATS Travel Atlas and the aggregation of the link data to form segment data. This table is a combination of the CATS Travel Atlases from 1990 and 1995 and shows how link based information was combined to form segment information.

**Location** – A verbal description of the end point of a link.

**M.P.** – Mileage information of the end point of a link.

**Dis.** – Link distance in the CATS Atlas.

**Segment Sum Miles** – Sum of the link distances that comprise the segment.

Ave Ratio Segment – Simple average of each link's 1990 / 1995 AADT Ratio.

1990/1995 AADT Ratio - Ratio of the mainline 1990 AADT / 1995 AADT for the link.

AADT Volume 1990 Mainline - TSC data 1990 AADT from the 1990 CATS Atlas.

**AADT Volume 1995 Off** - TSC data -1995 on ramp AADT from the 1995 CATS Atlas.

**AADT Volume 1995 On - TSC data -1995 off ramp AADT from the 1995 CATS Atlas.** 

AADT Volume Mainline- TSC data -1995 AADT from the 1995 CATS Atlas.

**1995 VMT** – Link VMT calculated by multiplying Dis. by link AADT.

**Segment 1995 VMT** – Aggregate 1995 link VMT for the entire segment.

Calculated 1990 VMT – Multiply Segment 1995 VMT by Ave Ratio Segment.

							AADT Volume	olume				
:			Segment	Avg Ratio	1990 / 1995	1990			1995		Segment	Calculated
Location	M.P.	Si .	Sum Miles	Segment	AADT Ratio	Mainline	6	5	Mainline	VMT	1995VMT	1990 VMT
US Rie. 12.2095th St.	37.26	0.59			0.883	006'960		11,500	108,500	64,015		
0 450	2000	0.41			0.9000	108,000	90.000		120,000	40,200		
0/11/31	30.00	0.60					10,500		100,400	65,640		
87th St.	10,00					100		13,300		1000000		
83rd St	35.78	0.47			0.8843	108,500		7,300	122,700	57,550		
		0.03	2.10	0.8920	0.8908	115,800			130,000	3,900	240,424,00	214,465
7001.52	35.75	0.39					00800		123,200	48,048		
79th St.	35.39	0000			0.0000	447,000		8,800	493,000	0.040		
7581.52	35.34	2000			0.8857	11/300	7.200		132,000	7,540		
		0.53							124,800	66,144		
180 M	25.03	0.10			0.9019	122300		10,800	135.600	13,500		
714(9)	34.71						6,600					
714.91	34.49	022					8.700		129,000	20,280		
		0.48							120,300	57,744		
67th St.	34.07	97.0			0.0014	447 000		10,500	130 000	40 343		
Emissa Lanes	73.87	5	1.88	0.8988	0.3014	0007711	86.400		000'001	210,01	234 828 00	211.069.3
		100			0.8018	35,600			44,400	464		
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#Oth of author your leaves	53.04	0.35					19 000		67,200	20,020		
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		0.45							43,100	19,395		
55m St	82.30	0.07			0.8788	45 500		11,800	54 900	4 843		
514531	32.13				0.000.0	120000	7,700		2000	2000		
241.00	100.00	0.43						9	47,200	20,296		
01925	31.70	0.03						000'9	53,700	1,611		
51st St out orp lanes	31.67	0.37						22,400				
					08030	200,000			18.450	70 467		

### **Calculation of Traffic Volumes for Expressways**

Table A-2 is an example of the data and method that was used to calculate VMT and volumes in the expressway analysis. The Master Highway Network was the original coverage used for this analysis.

The process of defining the traffic volume for each segment began with the segment VMT and divided this by the segment miles. This resulted in a uniform traffic volume for each link in a segment. This volume was then used to calculate link VMT (link volume \* length). The volume was also used to estimate congestion based on the capacity of the link.

Below are descriptions of the fields in the database.

**AREA** – The county or part of a county that the majority of the segment was in.

**ROAD NAME** – The name of the road.

**MILES (CALC)** – Length of the link based on the Atlas.( VMT-LINK 1995 / VOLUME 1995-SEG).

MILES (MHN) – Length of the link based on the Miles field in the MHN.

MHN SEG-MI – Length of the segment based on the Miles field in the MHN.

ATLAS SEG-MI – Length of the segment based on the CATS Travel Atlas.

**SEG-ID** – An identifier.

**RATIO 90-95** – Ratio of 1990 volume to the 1995 volume for each segment (see Table A-1).

**SEGMENT CALC-1990VMT** – Calculated 1990 VMT (RATIO 90-95 \* SEGMENT 1995VMT).

**SEGMENT 1995VMT** – Link VMT from the 1995 Atlas aggregated for the entire segment.

**SEGMENT 2000VMT** – Link VMT from the 2000 Atlas aggregated for the entire segment.

VOLUME 1990-SEG – RATIO 90-95 times VOLUME 1995-SEG.

**VOLUME 1995-SEG** – Atlas Segment 1995 VMT divided by Atlas Segment Miles.

**VOLUME 2000-SEG** – Atlas Segment 2000 VMT divided by Atlas Segment Miles.

VMT-LINK 1990 - SEGMENT CALC-1990VMT\* MILES (MHN) / MHN SEG-MI.

VMT-LINK 1995 - SEGMENT 1995VMT \* MILES (MHN) / MHN SEG-MI.

VMT-LINK 2000 - SEGMENT 2000VMT \* MILES (MHN) / MHN SEG-MI.

**LANES 1990** – The number of lanes in 1990.

LANES 1995 – The number of lanes in 1995.

**LANES 2000** – The number of lanes in 2000.

**A-NODE** – The value of the Anode field in the MHN.

**B-NODE** – The value of the Bnode field in the MHN.

Column   C	able A-2. Sample of Volume and VMT Lata for Expressive	iple of Volume	and Vis	Cett	a lor Ex	pressw	rays (1890, 1895)	1995, and 200	200								+	+	+	1
Charles   Control   Cont			MLES	MHM		ATLAS	RATI	O SEGNE	VIT SECAMEN	SEGMENT	VOLUME	VOLUME	VOLUME	VMT-TMV	VMT-LIMC	VMI-LINK	LANES LAN	ES LANE	98 5	Ш
Figure   Control   Contr	VREA.	ROAD NAME	CALC	MLES	SECM	SEG-M	SEG-ID 30-	5 CALC 1990A	MT 1995/MI	2000VMT	1990-SE0	1936-SEG	2000-SE3	1990	38	2000	1990	306	N A-Noc	e B-Nod
The control of the co	ogs 400	1290-EtT	0.04698		2,9800	280	1094 0.858	16669A					70139	2779	3232	3236	40	ID:	5 2213	98108
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Widney   Change   C	Carre	To Charle Tolland		000	2 2000	22	103 0.710	100		1			243.8	ADS	8 5	9000	N 6	4 6	2 5	_
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The Entire Flowery ( 0.0465	ook Suburban	Tri-State Tollway		0.07	2.4600	2.49	1011 0.95	14234					70165	4250	4427	4971	เล	10	5 9815	
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The filter of the control of the con	ook Suburban	Tri-State Tollway	0.04000	0.04	4.4300	454	1010 0.900	90	10				70366	2334	2591	3886	on	ч	48.938	
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Martin Ma	Cook Suburban	Tri-State Tollyay		0.04	3.4800	3.65	1014 0.896	198651					64647	2148	2387	2712	40	ω	825	
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Figure 19 10 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	Cook Suburban			0.04	38600	22	19 0.920	M 24688					49493	3998	2780	2703	4	w	4 55	
Secretary   Colored   Co	Nicago Remainder	Dan Pyan Local	0	0.05	22700	257	43 0.914	11300					68362	2489	3065	3238	64	64	2 1043	
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0.007400 0.00 6.00 0.00 0.00 0.00 0.00 0.00 0	1300	New Tollway	0.05333	0.04	2,6600	3.40	9 4	24.0					31741	58	148	1683	4	47 14	4 4	
0.04450 0.05 20000 2.65 144 0.0523 1114611 0.17390 4.0711 0.0504 0.0505 1717 2444 2460 2.2 2 2 2 2 2 0 0 0 0 0 0 0 0 0 0 0 0	Look Suburban	To State Tollway	000000	0.00	20400	8 1	14 0.00	20424	2.4				7,300.0	1930	2401	2000	9 0	0 1	0 7	4
0.04446 0.05 28000 2.66 44 0.8323 11461 1 23860 18801 4472 5575 5675 1991 2390 2479 2 2 2 2 2 0 0.04446 0.05 2800 2.65 2400 2.65 144 0.8323 11461 1 23860 2 2744 2 4570 2 6 4 0.0444 2 6 0.0 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2	birnes Commission	Pro Den Lores	CONTRACTOR	0.00	2 00000	200	1044 0 865	District District	2 40				COUNTRY	3117	2464	CUPC.	9 60	r c	100	
Particular   1972   1972   2770   257   2770   257   2770   277	Chicago Remainder	Den Brat Litta	0.04446	0.06	28000	2.49	44 0.832	11148	L				55755	1981	2380	2479	101	1 (4	2 1036	Ľ
E. W.Talway. 0.03500 0.04 4.000 1.35 11.00 0.8383 10.724.0 2.724.0 4.054.0 4.0500 1.05	hicage Remainder	Dan Pyss Local	0.113022		22700	257	43 0.914	77 11300					98.82	8764	6110	9699	24	CA	2 1040	
The Stare Toloring Orders 0.04 6.700 8.6 510 0.7205 225642 3.72447 4.10444 45702 55774 51274 2.1224	on Page	E W Tollway	0.03004		4.9600	3.75	1109 0.888	19724					72004	14001	200	2178	cu	CH	25	
Figure 104655	ook Suburban	Tri-State Tollway		0.04	5.7900	9.45	16 0.732	395.65	C4				64875	2063	2591	591	m	ч	4 317	
The State Tolories (10,005) 0.04 (2000) 2.45 (10,005) 11441 (1.37000) 10501 (10,005) 0.0501 (1	Chicago Remande	Thi State Tollway		970	38100	3.00	33 0 95	3,2901					09030	22234	23238	23276	70		3 1023	
The Person common of the Control of	Dock Suburban	In-State Torliving		0.04	24100	525	11 0.88	16541	0				78074	2746	319	7 S	40 6	ω (	9	
The States (1902-00) 0.014 (1900-00) 2.5 (1902-00) 2.5 (19	nicage Hernande	Dan Pyan Local		0.00	28000	2.49	44 0.93	200	J				98499	3885	4781	0967	~ 0	~ 0	2000	
This Street prenty (100,000 U.S. 410,00 1 10,0	36.9	T. Chart Tolling		000	4.800	2 5	1000	3427					06130	1777	380	1474	200	200	200	
Particular   Control   C	- BED	Labo Chose De M		500	2.4600	355	1172 0 800	200000					02/20	2848	2860	27746	0 4	9 19	4 679	
Vennsity         0.00006         0.00         1,070         1,06         37         0.0420         2,04649         2,020         1,0477         1,227         1,2000         1,070	Nicosa Remainder	Dan Reas Local	0	010	2 2700	262	1043 0 804						57707	5875	1788	0999	0		2 1036	
Kierracký         0.00209         0.00         1870         1.99         1.02         1.25         1.127         1.1861         5         6         6         6         6         7         7         7         7         1.18         7         7         1.00 <th< td=""><td>000</td><td>Kennedy</td><td>000000</td><td>000</td><td>1,0700</td><td>18</td><td>37 0.052</td><td></td><td>Pi</td><td></td><td></td><td>ľ</td><td>120005</td><td>0700</td><td>10201</td><td>10730</td><td>40</td><td>100</td><td>200</td><td></td></th<>	000	Kennedy	000000	000	1,0700	18	37 0.052		Pi			ľ	120005	0700	10201	10730	40	100	200	
Thi Staro Tollway (108492) (1086 6.2000 5.66 (1016 0.8523) (2347115 3.44436 389314 9.0310 55049 (57233 4.772 5914 6.709 3 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4	CBD	Kiennedy		0.09	1.8700	1.93	1037 0.848	19800				ľ	127669	9629	11227	11861	40	160	5 566	
Naturally 008433 0.09 1,8700 1.99 347 325457 343549 375957 15361 13000 9986 11497 12075 5 5 5 5 5 5 1 1 1 1 1 1 1 1 1 1 1 1 1	Cook Suburban	Tri-State Tollway		0.09	6,2000	100	1016 0.85	29431	10				67233	4272	7106	6779	60	খ	4 337	-
No.   Colored	090	Kennedy	0.09433	000	18700	88.5	37 0.35	20400					128006	2000	1927	12005	40 C	10 0	8	
NST-Greeney 0,000000 0,00 1,00 1,00 1,00 1,00 1,00	DOCK SUDUMEN	North Colonials	799600	0.04	4.4100	979	139 0.68	37704					87840	2700	833	2 500	n 4	7 6	9 9	1
Dan Rejan Local (1980) (1) 2,5000 (2.49) 44 (1932) (1) (1) (1980) (1980) 4772 (5970) (65% 7787 (1980) (1970) (1970) (1970) (1981) (1980	of side	NS-Tollware	0.06063	000	1 9000	2.60	1124 0 775	60000					40707	1309	1883	2,008	0 00	0 00	B 1968	
Kennely         0.00557         0.00         1.87         0.3483         1.90001.3         2.93572         2.44.29         102991         1.27083         1.27	hicago Remainder		0.1900/	0.18	28000	2.49	44 0.832	11148	_				99799	7.867	9999	9289	174	F (74	2 1036	
Kennely 0.08789 0.09 1.00 1.90 1.037 0.948 199001.3 235272 246439 102591 127899 9529 11227 11861 5 5 5 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6	080		0.08257	0.08	1,8700	1.93	1037 0.94	19600	_				127699	8471	9960	10643	w	140	999	
Hormely 009430 0.09 18700 1.96 37 0.0521 2040642 240546 710877 120738 120006 9986 11977 12075 5 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6	CBD	Kannedy	0.09289	0.09	18700	1.93	1037 0.848	19800					127889	9539	11227	11861	40	ND.	5	
Kennengy 0.00453 0.00 1.00 1.00 0.00 1.00 0.00 1.00 0.00	090	Kannedy	0.09433	600	1878	8 5	37 0.85	20498	~				2000	9889	1.677	12005	١٠	0	5	
Kennety 0.04817 0.0 0.000 1.00 1.00 0.000 1.	ORD	Kannegi	0.09433	600	Bys.	2 2	37 0.35	20455	4.0				COUNTY	2000	1/6	SWE	D 4	0 4	0 4	
Mannelly 0.03700 0.00 2.00 0.00 1.00 1.00 0.00 1.00 0.00 0	000	Kenned	0.000	0 40	00000	28	93 6 06	2007	J			Ι	900000	10000	2000	10444	0 4	D N	0 4	
Dan Resident CORPT 1 COS 2,2700 2 LG 1043 0,8017 1,246,40 145,00 145193 4752 6,777 2742 3421 3330 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2	Chicasa Remainde		0 17990	0.30	20900	9 5	47 0 080	20100				ľ	000000	20107	23422	24774	0 4	0 74	407 t	
Kennety 008257 0.08 1,570 1,93 1037 0,8488 1980C1 3 232272 246.43 102991 120865 1,27899 8471 9980 1064.3 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5	Nicago Servande		0.00071	90 0	2 2300	2 63	1043 0 801	7 124604					67707	2242	3421	00.00	- 6	-	100	
Kernnedy         0.00006         0.00         1,570         1,56         37         0.0521         234989.2         244546         250091         104576         122728         120006         0.784         10291         10730         6	080		0.08257	0.08	1,8700	1.93	1037 0.848	19800	m				127889	8471	0866	10543	40	1 10	989	
Advantarity 0.22706 0.22 1.8700 1.93 1037 0.8488 198001 3.23527.2 2444.39 10.2591 12.0588 1.27629 2.2294 2.7444 2.8993 5.5 5.5 5.5 5.5 5.5 5.5 5.5 5.5 5.5 5.	000	Kennedy	0.00300	0.00	1,6700	98	37 0.95	20490	CI				120006	6949	16201	10733	10	10	6 591	9 5920
Marriery 0.03990 0.03 2490, 2.50 1035 0.0356 37562/0 38050 10350 0.0350 3402 4402 4402 4402 4402 4402 4402 440	090	Kanneey	0.22706	0.53	1,878	1.93	1037 0.84	19800	23327				127659	23294	27444	289903	e c	0	5 1030	1
THE PARTY NAMED IN TAXABLE IN TAXABBE IN TAXABLE IN TAXABLE IN TAXABLE IN TAXABBE IN TAXABBE IN TAX	Chicago Hernande	Kennedy	0.39661	0.33	2,4800	200	10.55 0.855	31562	25096				134665	4,00.25	45/05	48020	9	D W	6 1025	

#### **SRA Analysis Data**

The SRA analysis contains data on 4201 links for which AADT counts were available for all three analysis years. The entire dataset is available from CATS in an electronic form. Table A-3 represents a sample of this data. The 1999 IRIS database was used for the most recent years and for previous years, AADT counts from County traffic maps were manually appended to the database.

The number of traffic lanes was adjusted to account for capacity that was added over time. The number of lanes and the AADT were used to determine the congestion status of a link. The AADT and length were used to determine the VMT for a link.

The county data (AADT YEAR1, AADT YEAR2, and AADT YEAR3) were collected in the following years.

	<u>Year1</u>	<u>Year2</u>	<u>Year3</u>
Cook	1990	1994	1998
DuPage	1989	1993	1999
Kane	1988	1992	1999
Lake	1988	1992	1999
McHenry	1985	1993	1999
Will	1987	1991	1999

The Inventory, Begin, and End fields can be used to locate individual links in the IRIS database. Below is a list of the fields in the analysis table.

**AREA** – The county or part of a county that the majority of the segment was in.

**ROAD NAME** – The name of the road.

**AADT YEAR1** – AADT count from the first analysis year.

**AADT YEAR2** – AADT count from the second analysis year.

**AADT YEAR3** – AADT count from the last analysis year.

LANES YEAR1

**LANES YEAR2** 

LANES YEAR3

**LEN(FT)** – Length in feet.

**INVENTORY(IRIS)** – An identifier for long segments used in IRIS.

**BEGIN** – The IRIS defined beginning of a link.

**END** – The IRIS defined end of a link.

**ROUTE** – Route designation, if there is one.

Table A-3. Sample of AADT Data for the SRA Analysis

AREA	ROAD NAME	AADT YEAR1	AADT YEAR2			LANES YEAR2		LEN(FT)	INVENTORY(IRIS) BEGIN END ROUTE
									. ,
Chicago Will	PULASKI RD FURGUSON RD/119TH ST	28100 150	33700 540	45400 1650	4 2	4 2	4 2	39.4 52.3	016 20368 000000 0.00 0.01 099 32308 000000 0.00 0.01
Lake	SKOKIE HWY	18300	24800	21400	4	4	4	41.0	049 20346 000000 0.00 0.01 U041
Kane	US-20	5300	6800	8900	2	2	2	45.8	045 20525 000000 0.00 0.01 U020
Lake	IL 59	9200	14550	22800	2	2	2	89.5	049 20338 000000     0.00   0.02 S059
McHenry	MAIN ST	2650	3300	4850	2	2	2	107.9	056 20326 000000 0.00 0.02 S047
Chicago	PULASKI RD	28100	33700	45400	4	4	4	78.8	016 20368 000000 0.01 0.03
Chicago DuPage	CUMBERLAND AV IL 59	33000 25200	41400 25000	42000 38900	4 2	4 2	4 4	236.1 209.9	016 20372 000000 0.00 0.04 S171 022 20338 000000 0.00 0.04 S059
Cook-Suburban		21100	18800	19400	2	2	2	277.0	016 20338 000000 0.00 0.04 3039
Chicago	PULASKI RD	28100	33700	45400	4	4	4	102.4	016 20368 000000 0.03 0.05
McHenry	US 14	5200	6800	7400	2	2	2	256.6	056 20305 000000 0.00 0.05 U014
Chicago	DIVERSEY AVE	13800	14100	17400	2	2	2	299.9	016 91377 000000 0.00 0.05
Chicago	PULASKI RD	28100	33700	45400	4	4	4	51.2	016 20368 000000 0.05 0.06
Kane	IL 47 PULASKI RD	6500 28100	11200 33700	18900 45400	2 4	2 4	2 4	318.2 51.2	045 20326 000000 0.00 0.06 S047 016 20368 000000 0.06 0.07
Chicago Will	LINCOLN HWY	18200	16400	23700	4	4	4	388.2	099 20353 000000 0.01 0.07 U030
Lake	GREEN BAY RD-IL 131	9650	10900	10100	2	2	2	475.8	049 92711 000000
Cook-Suburban	RAND RD/US 12	34900	27800	32500	4	4	4	537.3	016 20334 000000 0.00 0.10 U012
McHenry	MAIN ST	2650	3300	4850	2	2	2	431.8	056 20326 000000 0.02 0.10 S047
Lake	BELVIDERE RD	23800	24000	31000	4	4	4	802.8	049 91225 000000 0.00 0.11 S120
DuPage	OGDEN AV	14200	20700	29800	4	4	4	661.5	022 20311 000000   0.00 0.11 U034
DuPage	LAKE ST 87TH ST	30300 22500	23900 22800	44900 21900	4 6	4 6	4 6	594.2 633.1	022 20345 000000 0.00 0.11 U020 016 20395 000000 0.00 0.12
Chicago Will	CHICAGO ST	13900	18000	15700	4	4	4	564.9	099 20846 000000 0.00 0.12 U052
Kane	US-20	6300	6400	5800	2	2	2	686.7	045 20345 000000 0.00 0.12 U020
DuPage	75TH ST	4800	9250	10700	2	2	2	617.3	022 20369 000000 0.00 0.12
McHenry	ILL 176	5100	7150	9600	2	2	2	615.0	056 20335 000000 0.00 0.12 S176
	DEMPSTER ST	31900	39500	40100	4	4	4	715.8	016 20377 000000     0.00   0.13 S058
Will	LINCOLN HWY	18200	16400	23700	4	4	4	321.0	099 20353 000000 0.07 0.13 U030
Lake Lake	IL-176 IL 22	16800 8900	20300 10100	17100 11300	2 2	2 2	2 2	696.1 683.5	049 20335 000000 0.00 0.13 S176 049 20337 000000 0.00 0.13 S022
Lake	GREEN BAY RD-IL 131	9650	10900	10100	2	2	2	211.5	049 92711 000000 0.09 0.13 S131
McHenry	MAIN ST	2650	3300	4850	2	2	2	161.9	056 20326 000000
Cook-Suburban	CERMAK RD	26300	24300	25300	4	4	4	337.4	016 91453 000000 0.00 0.14
McHenry	TELEGRAPH RD	4180	6600	7900	2	2	2	748.4	056 20533 000000 0.00 0.14 S176
Chicago	PULASKI RD	28100	33700	45400	4	4	4	409.8	016 20368 000000 0.07 0.15
Lake	BELVIDERE RD	23800	24000	31000	4	4	4	27.3	049 91225 000000     0.11   0.15   \$120
Cook-Suburban Will	LINCOLN HWY	16000 18200	14000 16400	18400 23700	2 4	2 4	2 4	881.6 159.7	016 20351 000000 0.00 0.16 S007 099 20353 000000 0.13 0.16 U030
	WAUKEGAN RD	27000	28850	21600	4	4	4	845.7	016 20348 000000 0.00 0.17 S043
Lake	SKOKIE HWY	18300	24800	21400	4	4	4	737.9	049 20346 000000
Lake	IL-176	16800	20300	17100	2	2	2	374.8	049 20335 000000 0.13 0.20 S176
Will	CHICAGO ST	13900	18000	15700	4	4	4	556.0	099 20846 000000 0.12 0.20 U052
Lake	IL 59	9200	14550	22800	2	2	2	1050.6	049 20338 000000 0.02 0.20 S059
Lake	SKOKIE HWY	18300	24800	21400	4	4	4	41.0	049 20346 000000   0.19 0.20 U041
Lake Cook-Suburban	GREEN BAY RD-IL 131	9650 41300	10900 40000	10100 56500	2 6	2 6	2 6	370.1 475.2	049 92711 000000
Chicago	PULASKI RD	28100	33700	45400	4	4	4	307.3	016 20307 000000 0.02 0.21 S064 016 20368 000000 0.15 0.21
Kane	US-20	5300	6800	8900	2	2	2	916.2	045 20525 000000 0.01 0.21 U020
DuPage	ROSELLE RD	23400	22800	21900	4	4	4	1132.6	022 20364 000000 0.00 0.21
Cook-Suburban	MILWAUKEE AV	29800	30100	31500	4	4	4	1114.0	016 20330 000000 0.00 0.22 U045
	WAUKEGAN RD	27000	28850	21600	4	4	4	248.7	016 20348 000000
DuPage	STEARNS RD	4800	4650	5600	2	2	2	1225.4	022 20361 000000 0.00 0.23
McHenry McHenry	US 14	4200	3800	7200	2	2 2	2 2	1217.0	056 20066 000000 0.00 0.23 U014 056 20324 000000 0.00 0.23 U014
McHenry Cook-Suburban	N. DIVISION ST	9100 25300	11200 31200	16400 29100	2 4	4	4	1287.2 1237.9	056 20324 000000
Cook-Suburban		21900	22300	20300	4	4	4	1267.7	016 20876 000000 0.00 0.24 S001
Will	LINCOLN HWY	18200	16400	23700	4	4	4	425.8	099 20353 000000 0.16 0.24 U030
Lake	US 45	5600	6700	8000	2	2	2	1272.9	049 20344 000000     0.00   0.24 U045
Will	MANHATTON RD	1500	2200	5800	2	2	2	1456.4	099 91656 000000 0.00 0.25
Lake	ILL 173	8800	9800	14501	2	2	2	1331.5	049 20303 000000 0.00 0.25 S173
Kane	ALGONQUIN RD	18200	21200	28400	2	2	4	1312.5	045 20339 000000
Kane	US-20	6300	6400	5800	2	2	2	743.9	045 20345 000000 0.12 0.25 U020
Kane	US-20	5300	6800	8900	2	2	2	183.2	045 20525 000000 0.21 0.25 U020

### **Collection of Heavy Commercial Vehicle Data**

The analysis of HCV traffic was based on dataset containing 3471 links for which HCV traffic counts were available for all three analysis years. This information is available from CATS in an electronic form.

Table A-4 is a sample of this data. The IRIS 1999 file was used to gather AADT information for the most recent HCV traffic counts. In addition to this, traffic counts for 1984 and 1992 were manually taken from Heavy Commercial Traffic Maps that were produced by the Illinois Department of Transportation. These maps list HCV traffic on the Illinois state primary system. The HCV traffic volumes from 1984 and 1992 were then appended to the 1999 IRIS database. The Inventory, Begin, and End fields can be used to locate individual links in the IRIS database. Below is a list of the fields in the data table.

**AREA** – The county or part of a county that the majority of the segment was in.

**ROAD NAME** – The name of the road.

ROUTE

**HCV 1984** – Heavy Commercial Vehicle counts from 1984 IDOT maps.

HCV 1992 - Heavy Commercial Vehicle counts from 1992 IDOT maps.

**HCV 1996** – Heavy Commercial Vehicle counts from the 1999 IRIS database.

**LEN(FT)** – Length of the link in feet.

**LANES** – The number of lanes.

**INVENTORY(IRIS)** – An identifier for long segments used in IRIS.

**BEGIN** – The IRIS defined beginning of a link.

**END** – The IRIS defined end of a link.

Table A-4. Sample of Heavy Commercial Vehicle (HCV) AADT Data for the Illinois Primary System.

AREA	ROAD NAME	ROUTE	HCV 1984	HCV 1992	HCV 1996	LEN(FT)	LANES	INVENTORY(IRIS) E	REGIN	END
						. ,		,		
Chicago	EDENS EXPWY	1090	18600	18900	17500	34.954	6	016 10094 000000	18.20	
Chicago	KENNEDY EXPWY	1090	1300	9400	7700	49.690	6	016 10090 000000	26.15	
Chicago	CHICAGO SKYWAY	1090	1300	9400	7700	51.214	6	016 10090 000000	28.90	
Cook-Suburban	W LEG DAN RYAN	1057	3000	6800	4800	52.850	6	016 10057 000000	13.48	
Chicago	KENNEDY EXPWY	1090	1300	9400	7700	53.876	6	016 10090 000000	25.15	
Chicago	W LEG DAN RYAN	1057	3000	6800	4800	55.259	6	016 10057 000000	19.18	
Chicago	EDENS EXPWY	1094	900	11400	10500	59.053	6	016 10094 000000	17.16	
Chicago	KENNEDY EXPWY	1090	1300	9400	7700	64.919	6	016 10090 000000	24.29	
Chicago	KENNEDY EXPWY	1090	1300	9400	7700	133.800	6	016 10090 000000	28.10	
Chicago	KENNEDY EXPWY EDENS EXPWY	1090 1094	1300 900	9400 11400	7700 10500	365.239	6 6	016 10090 000000 016 10094 000000	25.08 16.59	
Chicago Cook-Suburban	W LEG DAN RYAN	1057	3000	6800	4800	441.137 527.747	6	016 10057 000000	14.07	
Cook-Suburban	EDENS/TRI-ST CONECTR	1094	5600	10100	9600	636.971	6	016 10094 000000	4.37	4.64
Chicago	KENNEDY EXPWY	1094	1300	9400	7700	649.261	6	016 10094 000000	28.66	
Chicago	NORTHWEST TLLWY	1090	1300	9400	7700	670.276	6	016 10090 000000	22.80	
Chicago	EDENS EXPWY	1094	900	11400	10500	709.364	6	016 10094 000000	17.92	
Chicago	EDENS EXPWY	1094	900	11400	10500	744.629	6	016 10094 000000	16.46	
Chicago	EDENS EXPWY	1090	18600	18900	17500	798.590	6	016 10094 000000	18.02	
Chicago	W LEG DAN RYAN	1057	3000	6800	4800	829.013	6	016 10057 000000	19.19	
Cook-Suburban	W LEG DAN RYAN	1057	3000	6800	4800	899.778	6	016 10057 000000	12.64	
Chicago	EDENS EXPWY	1094	900	11400	10500	980.518	6	016 10094 000000	17.01	
Cook-Suburban	W LEG DAN RYAN	1057	3000	6800	4800	1002.674	6	016 10057 000000	13.49	
Chicago	W LEG DAN RYAN	1057	3000	6800	4800	1103.750	6	016 10057 000000	18.06	
Chicago	KENNEDY EXPWY	1090	1300	9400	7700	1130.142	6	016 10090 000000	23.39	23.59
Chicago	KENNEDY EXPWY	1090	1300	9400	7700	1152.310	6	016 10090 000000	27.11	27.36
Chicago	NORTHWEST TLLWY	1090	1300	9400	7700	1185.064	8	016 10090 000000	22.96	23.05
Cook-Suburban	EDENS EXPWY	1094	5600	10100	9600	1261.704	6	016 10094 000000	7.07	7.31
Chicago	KENNEDY EXPWY	1090	18600	18900	17500	1292.616	8	016 10094 000000	18.55	18.81
Chicago	EDENS EXPWY	1094	900	11400	10500	1316.088	6	016 10094 000000	17.69	17.92
Cook-Suburban	W LEG DAN RYAN	1057	3000	6800	4800	1353.750	6	016 10057 000000	12.12	12.26
Cook-Suburban	EDENS EXPWY	1094	5600	10100	9600	1394.386	6	016 10094 000000	5.69	5.96
Chicago	W LEG DAN RYAN	1057	3000	6800	7000	1432.790	4	016 10057 000000	19.94	
Chicago	KENNEDY EXPWY	1090	1300	9400	7700	1518.110	6	016 10090 000000	25.87	
Chicago	KENNEDY EXPWY	1090	1300	9400	7700	1525.873	8	016 10090 000000	23.05	
Chicago	KENNEDY EXPWY	1090	1300	9400	7700	1535.481	6	016 10090 000000	27.81	
Chicago	KENNEDY EXPWY	1090	1300	9400	7700	1536.835	6	016 10090 000000	25.16	
Cook-Suburban	W LEG DAN RYAN	1057	3000	6800	4800	1550.457	6	016 10057 000000	14.49	
Cook-Suburban	W LEG DAN RYAN	1057	3000	6800	4800	1553.987	6	016 10057 000000	14.86	
Chicago	EDENS EXPWY	1094	900	11400	10500	1633.372	6	016 10094 000000	16.64	
Cook-Suburban	W LEG DAN RYAN	1057	3000	6800	4800	1684.275	6	016 10057 000000	14.17	
Chicago	KENNEDY EXPWY KENNEDY EXPWY	1090 1090	1300 18600	9400 18900	7700 17500	1774.456 1813.819	6 8	016 10090 000000 016 10094 000000	23.59 18.21	
Chicago Chicago	KENNEDY EXPWY	1090	1300	9400	7700	1850.463	6	016 10094 000000	23.92	
		1090	5600	10100	9600	1867.169	6			5.31
Cook-Suburban Cook-Suburban	EDENS EXPWY EDENS EXPWY	1094	5600	10100	9600	1931.063	6	016 10094 000000 016 10094 000000	4.92 7.31	7.67
Cook-Suburban	EDENS EXPWY	1094	5600	10100	9600	1962.530	6	016 10094 000000	5.31	5.69
Cook-Suburban	W LEG DAN RYAN	1057	3000	6800	4800	2002.188	6	016 10057 000000	12.26	
Chicago	EDENS EXPWY	1094	900	11400	10500	2014.535	6	016 10094 000000	16.05	
Cook-Suburban	W LEG DAN RYAN	1057	3000	6800	4800	2058.163	6	016 10057 000000	13.68	
Chicago	KENNEDY EXPWY	1090	1300	9400	7700	2138.049	6	016 10090 000000	25.45	
Cook-Suburban	W LEG DAN RYAN	1057	3000	6800	4800	2150.557	6	016 10057 000000	15.08	
Cook-Suburban	EDENS EXPWY	1094	5600	10100	9600	2433.050	6	016 10094 000000	8.43	8.89
Chicago	KENNEDY EXPWY	1090	1300	9400	7700	2521.260	6	016 10090 000000	27.36	
Chicago	EDENS EXPWY	1094	900	11400	10500	2745.228	6	016 10094 000000	17.17	
Cook-Suburban	EDENS EXPWY	1094	5600	10100	9600	2823.526	6	016 10094 000000	6.53	7.07
Chicago	KENNEDY EXPWY	1090	1300	9400	7700	2843.982	6	016 10090 000000	28.12	28.66
Cook-Suburban	EDENS EXPWY	1094	5600	10100	9600	2864.854	6	016 10094 000000	4.64	4.92
Chicago	W LEG DAN RYAN	1057	3000	6800	4800	3190.921	6	016 10057 000000	15.44	16.10
Cook-Suburban	EDENS EXPWY	1094	5600	10100	9600	3318.885	6	016 10094 000000	5.96	6.53
Chicago	W LEG DAN RYAN	1057	3000	6800	7000	3394.665	6	016 10057 000000	19.34	19.94

# Appendix B

## **Add-Lanes Projects**

## **Add-Lanes Projects**

In order to calculate congestion rates for prior years more accurately, recent improvements to the roads in the analysis database were accounted for by removing the effects of projects from the current databases. For example, an add lanes project (H-AL) awarded in 1992 that increased a road segment from two lanes to four lanes would be analyzed as having two lanes before 1992 and four lanes in 1992 and after. The sole source of these improvements was the awarded file in the CATS Transportation Improvement Program (TIP) database.

Table B-1. Expressway Add-Lane Projects Awarded 1990-1999

Project ID	Abbreviated Location	Year Award Construct	All Work Types	Project Length
03-90-0004	I- 294 TRI-STATE TOLLWAY FROM TOUHY AVE (COOK/DES PLAINES) TO US 12 20 95TH ST (COOK/BRIDGEVIEW)	1992	H-AL	58.5 Lane Miles
08-90-0011	I- 355 NORTH-SOUTH TOLLWAY FROM 63RD ST (DUPAGE/WOODRIDGE) TO 75TH ST DUPAGE/WOODRIDGE)	1994	H-AL	4.0 Lane Miles
08-94-0009	I- 355 NORTH-SOUTH TOLLWAY FROM IL 64 NORTH AVE (DUPAGE/LOMBARD) TO BUTTERFIELD RD (DUPAGE/DOWNERS GROVE)	1996	B-RECNFG H-AL	10.1 Lane Miles
09-90-0003	I- 90 NORTHWEST TOLLWAY FROM IL 25 (KANE/ELGIN) TO BARRINGTON RD (COOK/HOFFMAN ESTATES) AND NEW BEVERLY RD INTERCHANGE	1996	H-AL I-NEW	12.0 Lane Miles

Table B-2. SRA Subset Add-Lane Projects Awarded 1990-1999

		Year Award		Project Length
Project ID	Abbreviated Location	Construct	All Work Types	(Miles)
03-90-0006	QUENTIN RD FROM EUCLID (COOK/PALATINE) TO IL 62 ALGONQUIN RD	1990	H-AL	1.00
	(COOK/SCHAUMBURG)			
03-90-0012	IL 59 FROM US 20 (COOK/BARTLETT) TO IL 64 NORTH AVE (DUPAGE/WEST	1994	H-AL	7.00
	CHICAGO)			
03-94-0001	IL 83 ELMHURST RD FROM IL 68 DUNDEE RD (COOK/WHEELING) TO	1999	H-AL H-INTIMP	2.04
	PALATINE RD (COOK/PROSPECT HTS)			
03-94-0003	IL 59 SUTTON RD FROM IL 58 GOLF RD (COOK/STREAMWOOD) TO IL 19	1995	E-NOIS Z-OTH H-	1.93
	IRVING PARK RD (COOK/STREAMWOOD)		AL	
03-94-0015	LAKE-COOK RD AT IL 21 MILWAUKEE AVE (COOK/WHEELING) INCLUDING	1997	I-NEW B-NEW H-	1.94
	SEGMENT EAST TO PORTWINE		AL	
03-94-0018	QUENTIN RD FROM BALDWIN RD (COOK/PALATINE) TO DUNDEE RD	1998	H-AL H-RCNST	0.85
	(COOK/PALATINE)			
08-90-0023	IL 64 NORTH AVE FROM GARY AVE (DUPAGE/CAROL STREAM) TO I- 355	1994	H-AL	4.50
	NORTH SOUTH TOLLWAY (DUPAGE/LOMBARD)			
08-94-0003	US 20 LAKE ST FROM ROSEDALE AVE (DUPAGE/BLOOMINGTON) TO GLEN	1999	H-AL S-TIM	1.50
	ELLYN RD (DUPAGE/MEDINAH)			
08-94-0032	IL 59 FROM US 34 OGDEN AVE (DUPAGE/AURORA) TO 103RD ST	1995	H-INTRC H-AL S-	3.50
	(WILL/NAPERVILLE)		TIM	
09-90-0004	IL 72 HIGGINS RD FROM IL 25 DUNDEE AVE (KANE/EAST DUNDEE) TO IL 59	1994	H-AL	4.00
	(COOK/SOUTH BARRINGTON)			
09-94-0097	IL 62 25 FROM SANBLOOM (KANE) TO BOLTZ RD (MCHENRY)	1995	H-AL	
11-90-0001	IL 120 BELVIDERE RD FROM RIVER RD (MCHENRY/MCHENRY) TO IL 60	1992	H-AL	8.00
	(LAKE/WAUCONDA)			
11-94-0005	US 14 NORTHWEST HWY FROM IL 31 (MCHENRY/ALGONQUIN TWP) TO	1995	S-MOD B-	2.20
	BORDEN AVE (MCHENRY/CARY)		RECNFG H-AL	
11-94-0053	RANDALL RD FROM RAKOW RD (MCHENRY/CRYSTAL LAKE) TO COUNTY	1997	S-TIM H-COR H-	3.50
	LINE RD (MCHENRY/ALGONQUIN) RANDALL TO ILL 31 CONNECTOR		AL	
12-90-0001	CATON FARM RD FROM IL 59 (WILL/JOLIET) TO ESSINGTON RD	1992	H-AL	2.00
	(WILL/JOLIET)			
12-90-0002	US 45 MANNHEIN RD / 96TH AVE FROM I- 80 (WILL/MOKENA) TO	1991	H-AL	2.50
	COLORADO AVE (WILL/FRANKFORT)			

# **Appendix C**

2002, 2007 and 2020 Data Tables

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Table C-1. 2002 Arterial Lane Miles, Vehicle Miles and Vehicle Hours by Time of Day

1. 8:00 p.m. to 6:00 a.	m.								
						%			%
			%		Congested	Congested Vehicle		Congested	Congested Vehicle
		Congested	Congested	Vehicle Miles	Vehicle Miles	Miles	Vehicle Hours	Vehicle Hours	Hours
	Lane Miles	Lane Miles	Lane Miles	Traveled	Traveled	Traveled	Traveled	Traveled	Traveled
CBD	352	0	0%	166,465	687	0%	11,256	184	2%
Chicago balance	2,754	1	0%	1,629,253	2,852	0%	75,991	472	1%
Cook Co. balance	5,934	0	0%	3,324,623	432	0%	116,535	57	0%
DuPage Co.	2,566	0	0%	1,312,032	0	0%	42,545	0	0%
Kane Co.	2,214	0	0%	692,358	0	0%	20,049	0	0%
Lake Co.	2,413	1	0%	1,311,389	2,312	0%	39,060	254	1%
McHenry Co.	2,151	0	0%	588,082	0	0%	15,224	0	0%
Will Co.	3,539	0	0%	725,383	0	0%	19,977	0	0%
TOTAL	21,923	2	0%	9,749,585	6,283	0%	340,637	967	0%

2. 6:00 a.m. to 7:00 a.m.

						%			%
						Congested			Congested
			%		Congested	Vehicle		Congested	Vehicle
		Congested	Congested	Vehicle Miles	Vehicle Miles	Miles	Vehicle Hours	Vehicle Hours	Hours
	Lane Miles	Lane Miles	Lane Miles	Traveled	Traveled	Traveled	Traveled	Traveled	Traveled
CBD	352	17	5%	93,198	15,235	16%	8,870	2,509	28%
Chicago balance	2,754	90	3%	811,732	56,289	7%	46,323	6,703	14%
Cook Co. balance	5,934	36	1%	1,395,019	23,605	2%	54,374	1,710	3%
DuPage Co.	2,566	10	0%	539,361	6,850	1%	19,549	663	3%
Kane Co.	2,214	4	0%	247,984	2,754	1%	7,589	140	2%
Lake Co.	2,413	56	2%	504,330	40,577	8%	18,290	2,689	15%
McHenry Co.	2,151	4	0%	224,910	1,809	1%	6,247	168	3%
Will Co.	3,539	7	0%	256,104	4,487	2%	7,410	264	4%
TOTAL	21,923	224	1%	4,072,638	151,606	4%	168,652	14,846	9%

3. 7:00 a.m. to 9:00 a.m.

			%		Congested	% Congested Vehicle		Congested	% Congested Vehicle
		Congested	Congested	Vehicle Miles	Vehicle Miles	Miles	Vehicle Hours Traveled	Vehicle Hours	Hours
ODD	Lane Miles	Lane Miles	Lane Miles	Traveled	Traveled	Traveled		Traveled	Traveled
CBD	352	99	28%	411,338	204,633	50%	90,578	71,258	79%
Chicago balance	2,754	1104	40%	3,367,570	1,845,595	55%	397,495	306,233	77%
Cook Co. balance	5,934	1090	18%	5,719,071	1,736,284	30%	354,860	179,118	50%
DuPage Co.	2,566	317	12%	2,106,410	503,440	24%	112,467	49,151	44%
Kane Co.	2,214	68	3%	968,230	91,426	9%	35,195	6,815	19%
Lake Co.	2,413	396	16%	1,905,099	687,712	36%	111,215	67,406	61%
McHenry Co.	2,151	50	2%	845,138	72,618	9%	28,224	6,440	23%
Will Co.	3,539	57	2%	1,110,756	85,555	8%	37,793	6,673	18%
TOTAL	21,923	3,181	15%	16,433,612	5,227,263	32%	1,167,827	693,094	59%

4. 9:00 a.m. to 10:00 a.m.

					% Congested			% Congested
		%		Congested	Vehicle		Congested	Vehicle
	Congested	Congested	Vehicle Miles	Vehicle Miles	Miles	Vehicle Hours	Vehicle Hours	Hours
Lane Miles	Lane Miles	Lane Miles	Traveled	Traveled	Traveled	Traveled	Traveled	Traveled
352	18	5%	131,350	13,022	10%	12,162	2,383	20%
2,754	166	6%	1,054,109	94,968	9%	64,739	12,418	19%
5,934	81	1%	1,932,672	46,829	2%	80,158	3,952	5%
2,566	27	1%	722,101	17,744	2%	27,458	1,738	6%
2,214	8	0%	358,443	3,656	1%	11,326	236	2%
2,413	45	2%	661,818	30,648	5%	23,632	2,239	9%
2,151	6	0%	292,196	2,538	1%	8,200	281	3%
3,539	7	0%	381,868	4,885	1%	11,291	366	3%
21,923	358	2%	5,534,557	214,290	4%	238,966	23,613	10%
	352 2,754 5,934 2,566 2,214 2,413 2,151 3,539	Lane Miles         Lane Miles           352         18           2,754         166           5,934         81           2,566         27           2,214         8           2,413         45           2,151         6           3,539         7	Lane Miles         Lane Miles         Lane Miles           352         18         5%           2,754         166         6%           5,934         81         1%           2,566         27         11%           2,214         8         0%           2,413         45         2%           2,151         6         0%           3,539         7         0%	Lane Miles         Congested Lane Miles         Congested Lane Miles         Vehicle Miles Traveled           352         18         5%         131,350           2,754         166         6%         1,054,109           5,934         81         1%         1,932,672           2,566         27         1%         722,101           2,214         8         0%         358,443           2,413         45         2%         661,818           2,151         6         0%         292,196           3,539         7         0%         381,868	Lane Miles         Congested Lane Miles         Congested Lane Miles         Vehicle Miles Traveled         Vehicle Miles Traveled           352         18         5%         131,350         13,022           2,754         166         6%         1,054,109         94,968           5,934         81         1%         1,932,672         46,829           2,566         27         1%         722,101         17,744           2,214         8         0%         358,443         3,656           2,413         45         2%         661,818         30,648           2,151         6         0%         292,196         2,538           3,539         7         0%         381,868         4,885	Lane Miles         Lane Miles         Lane Miles         Lane Miles         Lane Miles         Traveled         Congested Vehicle Miles Miles Miles Traveled         18,022         10%         9%	Lane Miles         Congested Lane Miles         Vehicle Miles Lane Miles Traveled Traveled Traveled Traveled Traveled Traveled Traveled Traveled Lane Miles L	Lane Miles         Congested Vehicle Miles Miles Traveled         Traveled Traveled         Traveled Traveled         Traveled Traveled         Traveled Traveled         Traveled Traveled         Traveled Traveled         12,162         2,383           2,754         166         6%         1,054,109         94,968         9%         64,739         12,418           5,934         81         1%         1,932,672         46,829         2%         80,158         3,952           2,566         27         1%         722,101         17,744         2%         27,458         1,738           2,214         8         0%         358,443         3,656         1%         11,326         236           2,413         45         2%         661,818         30,648         5%         23,632         2,239           2,151         6         0%         292,196         2,538         1%         8,200         281           3,539         7         0%         381,868         4,885         1%         11,291         366

Table C-1 (continued). 2002 Arterial Lane Miles, Vehicle Miles and Vehicle Hours by Time of Day

5. 10:00 a.m. to 2:00 p	o.m.								
						%			%
			•			Congested			Congested
			%		Congested	Vehicle		Congested	Vehicle
		Congested	Congested	Vehicle Miles	Vehicle Miles	Miles	Vehicle Hours	Vehicle Hours	Hours
	Lane Miles	Lane Miles	Lane Miles	Traveled	Traveled	Traveled	Traveled	Traveled	Traveled
CBD	352	31	9%	611,602	96,170	16%	65,625	20,443	31%
Chicago balance	2,754	200	7%	4,264,853	466,210	11%	268,441	61,902	23%
Cook Co. balance	5,934	81	1%	7,849,528	198,584	3%	326,255	16,976	5%
DuPage Co.	2,566	35	1%	2,934,211	91,368	3%	112,495	9,009	8%
Kane Co.	2,214	9	0%	1,478,865	15,793	1%	47,236	1,133	2%
Lake Co.	2,413	21	1%	2,627,914	61,023	2%	89,956	4,583	5%
McHenry Co.	2,151	5	0%	1,182,455	9,481	1%	32,965	929	3%
Will Co.	3,539	6	0%	1,538,436	14,124	1%	45,339	1,158	3%
TOTAL	21,923	388	2%	22,487,864	952,753	4%	988,312	116,133	12%

6. 2:00 p.m. to 4:00 p.m.

						%			%
						Congested			Congested
			%		Congested	Vehicle		Congested	Vehicle
		Congested	Congested	Vehicle Miles	Vehicle Miles	Miles	Vehicle Hours	Vehicle Hours	Hours
	Lane Miles	Lane Miles	Lane Miles	Traveled	Traveled	Traveled	Traveled	Traveled	Traveled
CBD	352	48	14%	341,873	75,267	22%	39,441	14,686	37%
Chicago balance	2,754	401	15%	2,581,917	532,200	21%	187,214	70,935	38%
Cook Co. balance	5,934	235	4%	4,664,395	323,109	7%	211,639	28,945	14%
DuPage Co.	2,566	63	2%	1,727,805	86,062	5%	69,971	8,528	12%
Kane Co.	2,214	17	1%	850,437	15,707	2%	27,657	1,192	4%
Lake Co.	2,413	80	3%	1,569,771	114,701	7%	57,909	8,384	14%
McHenry Co.	2,151	10	0%	688,555	10,281	1%	19,737	939	5%
Will Co.	3,539	9	0%	889,227	10,714	1%	26,660	952	4%
TOTAL	21,923	863	4%	13,313,980	1,168,041	9%	640,228	134,561	21%

7. 4:00 p.m. to 6:00 p.m.

			0/			% Congested			% Congested
		0	%	17.11.1.881	Congested	Vehicle		Congested	Vehicle
		Congested	Congested	Vehicle Miles	Vehicle Miles	Miles	Vehicle Hours	Vehicle Hours	Hours
	Lane Miles	Lane Miles	Lane Miles	Traveled	Traveled	Traveled	Traveled	Traveled	Traveled
CBD	352	110	31%	429,388	210,128	49%	83,714	62,590	75%
Chicago balance	2,754	876	32%	3,184,969	1,387,201	44%	323,183	217,596	67%
Cook Co. balance	5,934	698	12%	5,565,370	1,072,499	19%	298,296	103,966	35%
DuPage Co.	2,566	178	7%	2,063,848	277,736	13%	98,894	28,943	29%
Kane Co.	2,214	53	2%	1,018,882	67,194	7%	35,623	4,743	13%
Lake Co.	2,413	252	10%	1,913,524	409,882	21%	88,469	35,295	40%
McHenry Co.	2,151	29	1%	859,924	38,759	5%	26,761	3,530	13%
Will Co.	3,539	27	1%	1,091,764	40,046	4%	34,898	3,158	9%
TOTAL	21,923	2,223	10%	16,127,669	3,503,445	22%	989,838	459,821	46%

8. 6:00 p.m. to 8:00 p.m.

						%			%
						Congested			Congested
			%		Congested	Vehicle		Congested	Vehicle
		Congested	Congested	Vehicle Miles	Vehicle Miles	Miles	Vehicle Hours	Vehicle Hours	Hours
	Lane Miles	Lane Miles	Lane Miles	Traveled	Traveled	Traveled	Traveled	Traveled	Traveled
CBD	352	14	4%	232,203	23,052	10%	21,052	3,927	19%
Chicago balance	2,754	69	3%	1,845,263	81,114	4%	103,659	11,360	11%
Cook Co. balance	5,934	17	0%	3,360,775	17,981	1%	129,872	1,829	1%
DuPage Co.	2,566	16	1%	1,252,543	19,396	2%	45,082	1,709	4%
Kane Co.	2,214	3	0%	694,709	3,096	0%	21,494	211	1%
Lake Co.	2,413	17	1%	1,268,526	24,837	2%	42,661	2,023	5%
McHenry Co.	2,151	3	0%	583,300	3,080	1%	15,988	286	2%
Will Co.	3,539	5	0%	762,585	6,059	1%	22,304	478	2%
TOTAL	21,923	144	1%	9,999,904	178,615	2%	402,112	21,823	5%
1									

Table C-2. 2007 Arterial Lane Miles, Vehicle Miles and Vehicle Hours by Time of Day

1. 8:00 p.m. to 6:00 a.	m.		%		Congested	% Congested Vehicle		Congested	% Congested Vehicle
		Congested	Congested	Vehicle Miles	Vehicle Miles	Miles	Vehicle Hours	Vehicle Hours	Hours
	Lane Miles	Lane Miles	Lane Miles	Traveled	Traveled	Traveled	Traveled	Traveled	Traveled
CBD	354	1	0%	170,665	5,768	3%	12,116	1,063	9%
Chicago balance	2,782	4	0%	1,690,128	9,908	1%	79,508	1,616	2%
Cook Co. balance	6,041	0	0%	3,416,385	508	0%	119,791	97	0%
DuPage Co.	2,664	0	0%	1,372,429	593	0%	44,531	65	0%
Kane Co.	2,287	0	0%	766,831	460	0%	22,217	55	0%
Lake Co.	2,503	3	0%	1,425,460	11,700	1%	44,354	2,335	5%
McHenry Co.	2,197	0	0%	644,587	0	0%	16,695	0	0%
Will Co.	3,666	0	0%	818,692	0	0%	22,632	0	0%
TOTAL	22,494	8	0%	10,305,177	28,937	0%	361,844	5,231	1%

2. 6:00 a.m. to 7:00 a.m.

			%		Congested	% Congested Vehicle		Congested	% Congested Vehicle
		Congested	Congested	Vehicle Miles	Vehicle Miles	Miles	Vehicle Hours	Vehicle Hours	Hours
	Lane Miles	Lane Miles	Lane Miles	Traveled	Traveled	Traveled	Traveled	Traveled	Traveled
CBD	354	19	5%	96,567	17,178	18%	9,407	2,885	31%
Chicago balance	2,782	94	3%	842,318	59,728	7%	47,745	6,634	14%
Cook Co. balance	6,041	45	1%	1,443,197	30,229	2%	56,441	2,264	4%
DuPage Co.	2,664	21	1%	576,498	14,407	2%	21,096	1,147	5%
Kane Co.	2,287	8	0%	286,068	5,740	2%	8,856	301	3%
Lake Co.	2,503	107	4%	584,036	78,823	13%	22,425	5,219	23%
McHenry Co.	2,197	4	0%	256,881	1,863	1%	7,261	182	2%
Will Co.	3,666	4	0%	293,039	2,801	1%	8,528	197	2%
TOTAL	22,494	302	1%	4,378,604	210,769	5%	181,759	18,829	10%

3. 7:00 a.m. to 9:00 a.m.

			%		Congested	% Congested Vehicle		Congested	% Congested Vehicle
		Congested	Congested	Vehicle Miles	Vehicle Miles	Miles	Vehicle Hours	Vehicle Hours	Hours
	Lane Miles	Lane Miles	Lane Miles	Traveled	Traveled	Traveled	Traveled	Traveled	Traveled
CBD	354	107	30%	425,228	221,739	52%	95,516	76,367	80%
Chicago balance	2,782	1142	41%	3,509,102	1,964,132	56%	426,994	334,583	78%
Cook Co. balance	6,041	1233	20%	6,008,919	1,987,475	33%	381,429	203,590	53%
DuPage Co.	2,664	384	14%	2,305,663	620,493	27%	128,674	61,581	48%
Kane Co.	2,287	97	4%	1,170,061	142,381	12%	44,922	11,311	25%
Lake Co.	2,503	526	21%	2,241,907	955,104	43%	151,293	104,386	69%
McHenry Co.	2,197	72	3%	1,007,087	106,109	11%	35,252	9,284	26%
Will Co.	3,666	67	2%	1,284,403	96,852	8%	43,427	7,144	16%
TOTAL	22,494	3,628	16%	17,952,370	6,094,285	34%	1,307,507	808,246	62%

4. 9:00 a.m. to 10:00 a.m.

						%			%
						Congested			Congested
			%		Congested	Vehicle		Congested	Vehicle
		Congested	Congested	Vehicle Miles	Vehicle Miles	Miles	Vehicle Hours	Vehicle Hours	Hours
	Lane Miles	Lane Miles	Lane Miles	Traveled	Traveled	Traveled	Traveled	Traveled	Traveled
CBD	354	19	5%	136,833	14,132	10%	12,805	2,637	21%
Chicago balance	2,782	195	7%	1,104,503	112,616	10%	68,443	14,005	20%
Cook Co. balance	6,041	105	2%	2,044,231	63,408	3%	85,870	5,389	6%
DuPage Co.	2,664	42	2%	786,915	28,315	4%	30,155	2,414	8%
Kane Co.	2,287	8	0%	418,588	3,843	1%	13,251	253	2%
Lake Co.	2,503	129	5%	790,571	88,603	11%	30,865	6,635	21%
McHenry Co.	2,197	5	0%	339,421	2,258	1%	9,615	255	3%
Will Co.	3,666	7	0%	440,810	4,216	1%	13,065	281	2%
TOTAL	22,494	510	2%	6,061,872	317,391	5%	264,069	31,869	12%

Table C-2 (continued). 2007 Arterial Lane Miles, Vehicle Miles and Vehicle Hours by Time of Day

5. 10:00 a.m. to 2:00 բ	o.m.								
						% Congested			% Congested
			%		Congested	Vehicle		Congested	Vehicle
		Congested	Congested	Vehicle Miles	Vehicle Miles	Miles	Vehicle Hours	Vehicle Hours	Hours
	Lane Miles	Lane Miles	Lane Miles	Traveled	Traveled	Traveled	Traveled	Traveled	Traveled
CBD	354	35	10%	631,318	106,792	17%	67,499	20,998	31%
Chicago balance	2,782	194	7%	4,415,717	465,012	11%	277,564	60,908	22%
Cook Co. balance	6,041	106	2%	8,230,696	266,210	3%	345,526	22,616	7%
DuPage Co.	2,664	40	2%	3,164,054	104,474	3%	122,213	10,590	9%
Kane Co.	2,287	9	0%	1,685,837	16,371	1%	53,726	1,247	2%
Lake Co.	2,503	51	2%	3,022,735	142,362	5%	109,107	11,280	10%
McHenry Co.	2,197	6	0%	1,325,774	11,289	1%	37,139	946	3%
Will Co.	3,666	8	0%	1,750,150	18,473	1%	51,850	1,275	2%
TOTAL	22,494	449	2%	24,226,281	1,130,983	5%	1,064,624	129,860	12%

6. 2:00 p.m. to 4:00 p.m.

						%			%
						Congested			Congested
			%		Congested	Vehicle		Congested	Vehicle
		Congested	Congested	Vehicle Miles	Vehicle Miles	Miles	Vehicle Hours	Vehicle Hours	Hours
	Lane Miles	Lane Miles	Lane Miles	Traveled	Traveled	Traveled	Traveled	Traveled	Traveled
CBD	354	54	15%	358,436	86,963	24%	42,346	17,147	40%
Chicago balance	2,782	428	15%	2,688,713	573,720	21%	196,608	76,525	39%
Cook Co. balance	6,041	276	5%	4,894,624	383,705	8%	224,803	34,612	15%
DuPage Co.	2,664	79	3%	1,870,362	109,609	6%	76,633	10,711	14%
Kane Co.	2,287	17	1%	980,995	16,507	2%	32,035	1,292	4%
Lake Co.	2,503	125	5%	1,826,754	178,266	10%	72,806	15,065	21%
McHenry Co.	2,197	10	0%	790,118	11,363	1%	22,788	957	4%
Will Co.	3,666	8	0%	1,017,268	9,817	1%	30,715	864	3%
TOTAL	22,494	997	4%	14,427,270	1,369,950	9%	698,734	157,173	22%

7. 4:00 p.m. to 6:00 p.m.

			%			% Congested			% Congested
		0		17.11.1.881	Congested	Vehicle		Congested	Vehicle
	I Mil	Congested	Congested	Vehicle Miles Traveled	Vehicle Miles Traveled	Miles Traveled	Vehicle Hours Traveled	Vehicle Hours Traveled	Hours Traveled
	Lane Miles	Lane Miles	Lane Miles			Traveleu			
CBD	354	115	32%	448,686	225,280	50%	91,585	70,231	77%
Chicago balance	2,782	919	33%	3,318,474	1,499,761	45%	343,500	236,667	69%
Cook Co. balance	6,041	753	12%	5,765,708	1,164,647	20%	312,630	113,256	36%
DuPage Co.	2,664	196	7%	2,210,686	307,943	14%	108,198	33,792	31%
Kane Co.	2,287	61	3%	1,159,167	80,220	7%	41,445	6,133	15%
Lake Co.	2,503	328	13%	2,160,590	548,727	25%	108,379	50,402	47%
McHenry Co.	2,197	34	2%	969,326	47,785	5%	30,451	4,151	14%
Will Co.	3,666	32	1%	1,221,206	46,743	4%	39,177	3,504	9%
TOTAL	22,494	2,438	11%	17,253,843	3,921,106	23%	1,075,365	518,136	48%

8. 6:00 p.m. to 8:00 p.m.

						%			%
						Congested			Congested
			%		Congested	Vehicle		Congested	Vehicle
		Congested	Congested	Vehicle Miles	Vehicle Miles	Miles	Vehicle Hours	Vehicle Hours	Hours
	Lane Miles	Lane Miles	Lane Miles	Traveled	Traveled	Traveled	Traveled	Traveled	Traveled
CBD	354	14	4%	247,097	24,299	10%	23,110	4,567	20%
Chicago balance	2,782	85	3%	1,933,093	102,521	5%	110,591	14,247	13%
Cook Co. balance	6,041	23	0%	3,410,915	24,407	1%	132,199	2,357	2%
DuPage Co.	2,664	19	1%	1,297,766	22,376	2%	46,778	2,107	5%
Kane Co.	2,287	3	0%	755,266	3,064	0%	23,378	225	1%
Lake Co.	2,503	26	1%	1,377,145	35,801	3%	46,880	2,756	6%
McHenry Co.	2,197	4	0%	626,298	3,387	1%	17,251	326	2%
Will Co.	3,666	5	0%	838,972	5,989	1%	24,638	465	2%
TOTAL	22,494	179	1%	10,486,552	221,844	2%	424,825	27,050	6%

Table C-3. 2020 Arterial Lane Miles, Vehicle Miles and Vehicle Hours by Time of Day

1. 8:00 p.m. to 6:00 a.	m.		%		Congested	% Congested Vehicle		Congested	% Congested Vehicle
		Congested	Congested	Vehicle Miles	Vehicle Miles	Miles	Vehicle Hours	Vehicle Hours	Hours
	Lane Miles	Lane Miles	Lane Miles	Traveled	Traveled	Traveled	Traveled	Traveled	Traveled
CBD	354	0	0%	177,676	986	1%	12,000	265	2%
Chicago balance	2,780	1	0%	1,764,044	2,570	0%	82,603	537	1%
Cook Co. balance	6,044	0	0%	3,710,750	543	0%	129,809	110	0%
DuPage Co.	2,660	0	0%	1,541,500	0	0%	49,956	0	0%
Kane Co.	2,287	0	0%	932,254	0	0%	26,945	0	0%
Lake Co.	2,527	3	0%	1,542,936	8,664	1%	47,058	1,346	3%
McHenry Co.	2,216	0	0%	730,074	0	0%	19,008	0	0%
Will Co.	3,700	0	0%	1,028,485	0	0%	28,440	0	0%
TOTAL	22,568	4	0%	11,427,719	12,763	0%	395,819	2,258	1%

2. 6:00 a.m. to 7:00 a.m.

						%			%
						Congested			Congested
			%		Congested	Vehicle		Congested	Vehicle
		Congested	Congested	Vehicle Miles	Vehicle Miles	Miles	Vehicle Hours	Vehicle Hours	Hours
	Lane Miles	Lane Miles	Lane Miles	Traveled	Traveled	Traveled	Traveled	Traveled	Traveled
CBD	354	20	6%	100,875	18,027	18%	10,013	3,106	31%
Chicago balance	2,780	103	4%	884,489	63,777	7%	50,595	7,234	14%
Cook Co. balance	6,044	92	2%	1,619,730	66,287	4%	65,854	5,318	8%
DuPage Co.	2,660	41	2%	674,502	29,977	4%	26,235	2,522	10%
Kane Co.	2,287	22	1%	364,412	14,912	4%	12,075	1,025	8%
Lake Co.	2,527	170	7%	671,904	128,091	19%	27,632	8,846	32%
McHenry Co.	2,216	18	1%	309,455	12,276	4%	9,334	1,052	11%
Will Co.	3,700	16	0%	384,890	10,999	3%	11,806	761	6%
TOTAL	22,568	482	2%	5,010,257	344,346	7%	213,544	29,864	14%
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3. 7:00 a.m. to 9:00 a.m.

						% Congested			% Congested
			%		Congested	Vehicle		Congested	Vehicle
		Congested	Congested	Vehicle Miles	Vehicle Miles	Miles	Vehicle Hours	Vehicle Hours	Hours
	Lane Miles	Lane Miles	Lane Miles	Traveled	Traveled	Traveled	Traveled	Traveled	Traveled
CBD	354	112	32%	436,435	233,671	54%	100,607	81,603	81%
Chicago balance	2,780	1259	45%	3,656,525	2,176,977	60%	466,697	377,933	81%
Cook Co. balance	6,044	1643	27%	6,704,075	2,805,167	42%	493,971	318,616	65%
DuPage Co.	2,660	646	24%	2,717,687	1,104,581	41%	190,605	125,729	66%
Kane Co.	2,287	235	10%	1,556,147	386,693	25%	75,301	35,925	48%
Lake Co.	2,527	699	28%	2,583,218	1,348,385	52%	212,061	166,198	78%
McHenry Co.	2,216	165	7%	1,262,614	267,620	21%	53,224	24,503	46%
Will Co.	3,700	154	4%	1,668,763	235,471	14%	66,025	21,162	32%
TOTAL	22,568	4,913	22%	20,585,464	8,558,565	42%	1,658,491	1,151,669	69%

4. 9:00 a.m. to 10:00 a.m.

						%			%
						Congested			Congested
			%		Congested	Vehicle		Congested	Vehicle
		Congested	Congested	Vehicle Miles	Vehicle Miles	Miles	Vehicle Hours	Vehicle Hours	Hours
	Lane Miles	Lane Miles	Lane Miles	Traveled	Traveled	Traveled	Traveled	Traveled	Traveled
CBD	354	24	7%	142,354	16,599	12%	13,362	2,740	21%
Chicago balance	2,780	260	9%	1,190,458	153,646	13%	77,033	19,032	25%
Cook Co. balance	6,044	252	4%	2,299,513	160,754	7%	102,396	12,921	13%
DuPage Co.	2,660	71	3%	909,136	48,598	5%	36,903	4,356	12%
Kane Co.	2,287	26	1%	519,546	15,234	3%	17,206	1,023	6%
Lake Co.	2,527	209	8%	900,753	151,119	17%	40,223	13,823	34%
McHenry Co.	2,216	15	1%	396,981	8,886	2%	11,724	833	7%
Will Co.	3,700	21	1%	556,137	14,270	3%	17,015	967	6%
TOTAL	22,568	878	4%	6,914,878	569,106	8%	315,862	55,695	18%
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Table C-3 (continued). 2020 Arterial Lane Miles, Vehicle Miles and Vehicle Hours by Time of Day

5. 10:00 a.m. to 2:00 p	o.m.								
			%		Congested	% Congested Vehicle		Congested	% Congested Vehicle
	Lane Miles	Congested Lane Miles	Congested Lane Miles	Vehicle Miles Traveled	Vehicle Miles Traveled	Miles Traveled	Vehicle Hours Traveled	Vehicle Hours Traveled	Hours Traveled
CBD	354	40	11%		121.874	18%		24,958	33%
Chicago balance	2.780	282	10%	4.822.146	686.382	14%	, -	89,502	28%
Cook Co. balance	6.044	196	3%	9.245.947	500,571	5%	,	42.508	10%
DuPage Co.	2,660	55	2%	3.611.397	152.015	4%		16.818	11%
Kane Co.	2,287	22	1%	2.034.050	44.538	2%	.,	3.268	5%
Lake Co.	2,527	100	4%	3.399.904	276,898	8%		25,665	19%
McHenry Co.	2,216	11	1%	.,,.	22,456	1%	43.577	1.951	4%
Will Co.	3,700	11	0%	2,167,252	27,935	1%	.,.	2,014	3%
TOTAL	22,568	717	3%	27,475,291	1,832,669	7%	1,258,275	206,684	16%

6. 2:00 p.m. to 4:00 p.m.

						%			%
						Congested			Congested
			%		Congested	Vehicle		Congested	Vehicle
		Congested	Congested	Vehicle Miles	Vehicle Miles	Miles	Vehicle Hours	Vehicle Hours	Hours
	Lane Miles	Lane Miles	Lane Miles	Traveled	Traveled	Traveled	Traveled	Traveled	Traveled
CBD	354	60	17%	371,365	95,649	26%	44,419	18,389	41%
Chicago balance	2,780	538	19%	2,873,512	736,391	26%	221,353	98,111	44%
Cook Co. balance	6,044	536	9%	5,524,805	766,560	14%	273,549	68,307	25%
DuPage Co.	2,660	144	5%	2,181,337	208,980	10%	97,772	21,356	22%
Kane Co.	2,287	47	2%	1,220,299	55,474	5%	42,211	4,238	10%
Lake Co.	2,527	214	8%	2,084,786	318,950	15%	91,427	28,404	31%
McHenry Co.	2,216	20	1%	924,300	22,856	2%	27,970	2,168	8%
Will Co.	3,700	31	1%	1,282,597	42,598	3%	40,252	3,029	8%
TOTAL	22,568	1,590	7%	16,463,001	2,247,458	14%	838,953	244,002	29%

7. 4:00 p.m. to 6:00 p.m.

			%		Congested	% Congested Vehicle		Congested	% Congested Vehicle
		Congested	Congested	Vehicle Miles	Vehicle Miles	Miles	Vehicle Hours	Vehicle Hours	Hours
	Lane Miles	Lane Miles	Lane Miles	Traveled	Traveled	Traveled	Traveled	Traveled	Traveled
CBD	354	119	34%	461,455	235,108	51%	95,627	73,743	77%
Chicago balance	2,780	982	35%	3,419,140	1,614,721	47%	362,773	256,575	71%
Cook Co. balance	6,044	1112	18%	6,390,068	1,798,446	28%	383,071	180,783	47%
DuPage Co.	2,660	398	15%	2,582,211	652,488	25%	153,381	75,968	50%
Kane Co.	2,287	150	7%	1,495,390	229,087	15%	61,908	19,383	31%
Lake Co.	2,527	476	19%	2,449,736	831,461	34%	138,393	78,824	57%
McHenry Co.	2,216	78	4%	1,150,726	118,809	10%	40,399	10,601	26%
Will Co.	3,700	87	2%	1,542,855	129,333	8%	54,356	10,714	20%
TOTAL	22,568	3,402	15%	19,491,581	5,609,453	29%	1,289,908	706,591	55%

8. 6:00 p.m. to 8:00 p.m.

						%			%
						Congested			Congested
			%		Congested	Vehicle		Congested	Vehicle
		Congested	Congested	Vehicle Miles	Vehicle Miles	Miles	Vehicle Hours	Vehicle Hours	Hours
	Lane Miles	Lane Miles	Lane Miles	Traveled	Traveled	Traveled	Traveled	Traveled	Traveled
CBD	354	17	5%	250,452	26,934	11%	23,264	4,832	21%
Chicago balance	2,780	82	3%	2,007,957	97,176	5%	114,822	13,588	12%
Cook Co. balance	6,044	34	1%	3,756,970	40,421	1%	146,972	3,526	2%
DuPage Co.	2,660	21	1%	1,480,438	26,870	2%	54,372	2,652	5%
Kane Co.	2,287	10	0%	931,802	9,842	1%	29,545	776	3%
Lake Co.	2,527	44	2%	1,516,161	62,128	4%	52,621	4,675	9%
McHenry Co.	2,216	8	0%	719,275	8,570	1%	20,123	695	3%
Will Co.	3,700	9	0%	1,036,363	10,527	1%	31,002	796	3%
TOTAL	22,568	225	1%	11,699,418	282,468	2%	472,721	31,540	7%

Table C-4. 2002 Expressway Lane Miles, Vehicle Miles and Vehicle Hours by Time of Day

1. 8:00 p.m. to 6:00 a.	m.								
						% Congested			% Congested
			%		Congested	Vehicle		Congested	Vehicle
		Congested	Congested	Vehicle Miles	Vehicle Miles	Miles	Vehicle Hours	Vehicle Hours	Hours
	Lane Miles	Lane Miles	Lane Miles	Traveled	Traveled	Traveled	Traveled	Traveled	Traveled
CBD	93	0	0%	475,335	0	0%	11,506	0	0%
Chicago balance	554	2	0%	2,239,861	17,385	1%	43,839	1,174	3%
Cook Co. balance	1,025	0	0%	2,127,549	0	0%	35,845	0	0%
DuPage Co.	428	0	0%	617,716	0	0%	10,296	0	0%
Kane Co.	171	0	0%	140,700	0	0%	2,069	0	0%
Lake Co.	208	0	0%	374,463	0	0%	6,214	0	0%
McHenry Co.	50	0	0%	33,289	0	0%	453	0	0%
Will Co.	312	0	0%	422,323	0	0%	6,015	0	0%
TOTAL	2,841	2	0%	6,431,236	17,385	0%	116,237	1,174	1%

2. 6:00 a.m. to 7:00 a.m.

						%			%
						Congested			Congested
			%		Congested	Vehicle		Congested	Vehicle
		Congested	Congested	Vehicle Miles	Vehicle Miles	Miles	Vehicle Hours	Vehicle Hours	Hours
	Lane Miles	Lane Miles	Lane Miles	Traveled	Traveled	Traveled	Traveled	Traveled	Traveled
CBD	93	12	13%	124,359	23,943	19%	5,003	1,915	38%
Chicago balance	567	75	13%	752,423	153,477	20%	34,575	18,023	52%
Cook Co. balance	1,025	14	1%	972,806	25,334	3%	20,383	1,311	6%
DuPage Co.	428	0	0%	323,854	0	0%	5,988	0	0%
Kane Co.	171	0	0%	62,770	0	0%	959	0	0%
Lake Co.	208	0	0%	156,226	0	0%	3,033	0	0%
McHenry Co.	50	0	0%	12,079	0	0%	167	0	0%
Will Co.	312	0	0%	181,793	0	0%	2,729	0	0%
TOTAL	2,854	101	4%	2,586,310	202,754	8%	72,837	21,249	29%
DuPage Co. Kane Co. Lake Co. McHenry Co. Will Co.	428 171 208 50 312	0 0 0 0	0% 0% 0% 0% 0%	323,854 62,770 156,226 12,079 181,793	0 0 0 0	0% 0% 0% 0% 0%	5,988 959 3,033 167 2,729	0 0 0 0	09 09 09 09

3. 7:00 a.m. to 9:00 a.m.

						% Congested			% Congested
			%		Congested	Vehicle		Congested	Vehicle
		Congested	Congested	Vehicle Miles	Vehicle Miles	Miles	Vehicle Hours	Vehicle Hours	Hours
	Lane Miles	Lane Miles	Lane Miles	Traveled	Traveled	Traveled	Traveled	Traveled	Traveled
CBD	93	39	42%	308,389	169,190	55%	36,307	32,160	89%
Chicago balance	567	254	45%	1,920,912	1,116,847	58%	238,884	217,337	91%
Cook Co. balance	1,025	163	16%	2,815,197	620,877	22%	99,920	42,171	42%
DuPage Co.	428	31	7%	1,034,629	118,536	11%	29,368	7,549	26%
Kane Co.	171	0	0%	215,894	0	0%	3,682	0	0%
Lake Co.	208	31	15%	471,830	123,060	26%	17,665	10,042	57%
McHenry Co.	50	0	0%	44,110	0	0%	629	0	0%
Will Co.	312	8	2%	639,756	25,827	4%	12,887	1,065	8%
TOTAL	2,854	526	18%	7,450,717	2,174,337	29%	439,342	310,324	71%

4. 9:00 a.m. to 10:00 a.m.

						%			%
						Congested			Congested
			%		Congested	Vehicle		Congested	Vehicle
		Congested	Congested	Vehicle Miles	Vehicle Miles	Miles	Vehicle Hours	Vehicle Hours	Hours
	Lane Miles	Lane Miles	Lane Miles	Traveled	Traveled	Traveled	Traveled	Traveled	Traveled
CBD	93	18	19%	139,572	31,622	23%	6,197	2,250	36%
Chicago balance	567	55	10%	752,215	99,203	13%	26,398	9,019	34%
Cook Co. balance	1,025	8	1%	1,033,349	12,643	1%	22,050	638	3%
DuPage Co.	428	0	0%	371,067	0	0%	7,189	0	0%
Kane Co.	171	0	0%	76,821	0	0%	1,190	0	0%
Lake Co.	208	0	0%	178,330	0	0%	3,540	0	0%
McHenry Co.	50	0	0%	18,114	0	0%	257	0	0%
Will Co.	312	0	0%	225,941	0	0%	3,569	0	0%
TOTAL	2,854	81	3%	2,795,409	143,468	5%	70,390	11,907	17%

Table C-4 (continued). 2002 Expressway Lane Miles, Vehicle Miles and Vehicle Hours by Time of Day

5. 10:00 a.m. to 2:00 p	o.m.								
						%			%
			%		Congested	Congested Vehicle		Congested	Congested Vehicle
		Congested	Congested	Vehicle Miles	Vehicle Miles	Miles	Vehicle Hours	Vehicle Hours	Hours
	Lane Miles	Lane Miles	Lane Miles	Traveled	Traveled	Traveled	Traveled	Traveled	Traveled
CBD	93	26	28%	586,430	189,234	32%	30,115	14,462	48%
Chicago balance	554	57	10%	2,913,672	429,830	15%	101,001	37,231	37%
Cook Co. balance	1,025	5	0%	3,950,992	32,977	1%	80,388	1,574	2%
DuPage Co.	428	0	0%	1,376,847	0	0%	25,714	0	0%
Kane Co.	171	0	0%	297,436	0	0%	4,568	0	0%
Lake Co.	208	0	0%	676,732	0	0%	12,202	0	0%
McHenry Co.	50	0	0%	72,940	0	0%	1,030	0	0%
Will Co.	312	0	0%	859,901	0	0%	13,239	0	0%
TOTAL	2,841	88	3%	10,734,950	652,041	6%	268,257	53,267	20%

6. 2:00 p.m. to 4:00 p.m.

						%			%
						Congested			Congested
			%		Congested	Vehicle		Congested	Vehicle
		Congested	Congested	Vehicle Miles	Vehicle Miles	Miles	Vehicle Hours	Vehicle Hours	Hours
	Lane Miles	Lane Miles	Lane Miles	Traveled	Traveled	Traveled	Traveled	Traveled	Traveled
CBD	95	45	47%	328,832	172,466	52%	20,958	14,885	71%
Chicago balance	565	100	18%	1,711,895	405,174	24%	160,732	123,944	77%
Cook Co. balance	1,025	19	2%	2,392,133	70,338	3%	54,318	4,499	8%
DuPage Co.	428	0	0%	850,253	0	0%	17,136	0	0%
Kane Co.	171	0	0%	176,692	0	0%	2,741	0	0%
Lake Co.	208	0	0%	409,061	0	0%	8,089	0	0%
McHenry Co.	50	0	0%	43,175	0	0%	615	0	0%
Will Co.	312	0	0%	518,014	0	0%	8,215	0	0%
TOTAL	2,854	164	6%	6,430,055	647,978	10%	272,804	143,328	53%

7. 4:00 p.m. to 6:00 p.m.

			%		Congested	% Congested Vehicle		Congested	% Congested Vehicle
	Lane Miles	Congested Lane Miles	Congested Lane Miles	Vehicle Miles Traveled	Vehicle Miles Traveled	Miles Traveled	Vehicle Hours Traveled	Vehicle Hours Traveled	Hours Traveled
CBD	95	55	57%	361.146	237.469	66%		40.045	90%
Chicago balance	565	200	35%	1,884,144	854,111	45%	138,775	110,658	80%
Cook Co. balance	1,025	70	7%	2,736,424	269,342	10%	72,982	16,554	23%
DuPage Co.	428	6	1%	949,086	26,160	3%	21,601	1,797	8%
Kane Co.	171	0	0%	209,115	0	0%	3,321	0	0%
Lake Co.	208	16	8%	487,710	60,904	12%	12,649	2,954	23%
McHenry Co.	50	0	0%	49,439	0	0%	701	0	0%
Will Co.	312	0	0%	620,674	0	0%	10,534	0	0%
TOTAL	2,854	347	12%	7,297,738	1,447,986	20%	305,286	172,008	56%

8. 6:00 p.m. to 8:00 p.m.

						%			%
						Congested			Congested
			%		Congested	Vehicle		Congested	Vehicle
		Congested	Congested	Vehicle Miles	Vehicle Miles	Miles	Vehicle Hours	Vehicle Hours	Hours
	Lane Miles	Lane Miles	Lane Miles	Traveled	Traveled	Traveled	Traveled	Traveled	Traveled
CBD	95	13	13%	302,158	47,933	16%	12,804	3,460	27%
Chicago balance	565	26	5%	1,483,342	104,715	7%	41,468	7,098	17%
Cook Co. balance	1,025	0	0%	1,718,089	0	0%	31,260	0	0%
DuPage Co.	428	0	0%	511,508	0	0%	8,828	0	0%
Kane Co.	171	0	0%	130,142	0	0%	1,960	0	0%
Lake Co.	208	0	0%	339,017	0	0%	5,913	0	0%
McHenry Co.	50	0	0%	30,142	0	0%	417	0	0%
Will Co.	312	0	0%	378,183	0	0%	5,585	0	0%
TOTAL	2,854	39	1%	4,892,581	152,648	3%	108,235	10,558	10%

Table C-5. 2007 Expressway Lane Miles, Vehicle Miles and Vehicle Hours by Time of Day

1. 8:00 p.m. to 6:00 a.	m.								
						%			%
			0/			Congested			Congested
			%		Congested	Vehicle		Congested	Vehicle
		Congested	Congested	Vehicle Miles	Vehicle Miles	Miles	Vehicle Hours	Vehicle Hours	Hours
	Lane Miles	Lane Miles	Lane Miles	Traveled	Traveled	Traveled	Traveled	Traveled	Traveled
CBD	93	0	0%	489,874	0	0%	12,268	0	0%
Chicago balance	562	0	0%	2,367,636	0	0%	46,665	0	0%
Cook Co. balance	1,097	0	0%	2,361,132	0	0%	39,753	0	0%
DuPage Co.	474	0	0%	697,837	0	0%	11,625	0	0%
Kane Co.	171	0	0%	171,768	0	0%	2,543	0	0%
Lake Co.	208	0	0%	449,598	0	0%	7,527	0	0%
McHenry Co.	55	0	0%	40,232	0	0%	559	0	0%
Will Co.	367	0	0%	516,441	0	0%	7,423	0	0%
TOTAL	3,027	0	0%	7,094,518	0	0%	128,363	0	0%

2. 6:00 a.m. to 7:00 a.m.

		Congested	% Congested	V 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	Congested	% Congested Vehicle	Vehicle Hours	Congested	% Congested Vehicle
	Lane Miles	Lane Miles	Lane Miles	Vehicle Miles Traveled	Vehicle Miles Traveled	Miles Traveled	Traveled	Vehicle Hours Traveled	Hours Traveled
CBD	93	14	15%	124,342	26,526	21%	4,905	1,931	39%
Chicago balance	575	70	12%	773,940	146,426	19%	33,477	15,780	47%
Cook Co. balance	1,097	3	0%	1,068,635	6,470	1%	22,125	349	2%
DuPage Co.	474	0	0%	365,021	0	0%	6,804	0	0%
Kane Co.	171	0	0%	76,160	0	0%	1,186	0	0%
Lake Co.	208	0	0%	175,995	0	0%	3,758	0	0%
McHenry Co.	55	0	0%	14,498	0	0%	206	0	0%
Will Co.	367	0	0%	227,819	0	0%	3,527	0	0%
TOTAL	3,040	87	3%	2,826,410	179,422	6%	75,988	18,060	24%

3. 7:00 a.m. to 9:00 a.m.

			%		Congested	% Congested Vehicle		Congested	% Congested Vehicle
		Congested	Congested	Vehicle Miles	Vehicle Miles	Miles	Vehicle Hours	Vehicle Hours	Hours
	Lane Miles	Lane Miles	Lane Miles	Traveled	Traveled	Traveled	Traveled	Traveled	Traveled
CBD	93	40	43%	309,726	171,244	55%	36,774	32,584	89%
Chicago balance	575	271	47%	1,962,393	1,185,068	60%	235,030	214,031	91%
Cook Co. balance	1,097	203	19%	3,115,349	781,806	25%	114,032	50,549	44%
DuPage Co.	474	44	9%	1,156,564	168,140	15%	35,397	10,523	30%
Kane Co.	171	0	0%	247,877	0	0%	4,691	0	0%
Lake Co.	208	41	20%	519,167	169,087	33%	24,641	17,030	69%
McHenry Co.	55	0	0%	54,500	0	0%	807	0	0%
Will Co.	367	6	2%	770,538	21,699	3%	16,674	1,120	7%
TOTAL	3,040	605	20%	8,136,114	2,497,044	31%	468,046	325,837	70%

4. 9:00 a.m. to 10:00 a.m.

						%			%
						Congested			Congested
			%		Congested	Vehicle		Congested	Vehicle
		Congested	Congested	Vehicle Miles	Vehicle Miles	Miles	Vehicle Hours	Vehicle Hours	Hours
	Lane Miles	Lane Miles	Lane Miles	Traveled	Traveled	Traveled	Traveled	Traveled	Traveled
CBD	93	16	18%	140,701	28,729	20%	6,217	1,934	31%
Chicago balance	575	58	10%	778,551	105,745	14%	26,635	8,206	31%
Cook Co. balance	1,097	2	0%	1,164,990	3,452	0%	25,073	167	1%
DuPage Co.	474	1	0%	427,664	1,564	0%	8,472	79	1%
Kane Co.	171	0	0%	93,198	0	0%	1,474	0	0%
Lake Co.	208	0	0%	203,579	0	0%	4,582	0	0%
McHenry Co.	55	0	0%	22,525	0	0%	330	0	0%
Will Co.	367	0	0%	287,124	0	0%	4,661	0	0%
TOTAL	3,040	77	3%	3,118,332	139,490	4%	77,444	10,386	13%
1									

Table C-5 (continued). 2007 Expressway Lane Miles, Vehicle Miles and Vehicle Hours by Time of Day

5. 10:00 a.m. to 2:00 p	o.m.								
						%			%
			0/			Congested			Congested
			%		Congested	Vehicle		Congested	Vehicle
		Congested	Congested	Vehicle Miles	Vehicle Miles	Miles	Vehicle Hours	Vehicle Hours	Hours
	Lane Miles	Lane Miles	Lane Miles	Traveled	Traveled	Traveled	Traveled	Traveled	Traveled
CBD	93	39	42%	594,624	279,527	47%	32,207	20,609	64%
Chicago balance	562	64	11%	3,034,490	477,747	16%	104,012	36,795	35%
Cook Co. balance	1,097	2	0%	4,442,922	14,716	0%	90,070	822	1%
DuPage Co.	474	1	0%	1,583,560	6,183	0%	30,068	290	1%
Kane Co.	171	0	0%	354,544	0	0%	5,529	0	0%
Lake Co.	208	0	0%	759,495	0	0%	14,355	0	0%
McHenry Co.	55	0	0%	91,812	0	0%	1,339	0	0%
Will Co.	367	0	0%	1,076,215	0	0%	16,835	0	0%
TOTAL	3,027	106	4%	11,937,662	778,173	7%	294,415	58,516	20%

6. 2:00 p.m. to 4:00 p.m.

						%			%
						Congested			Congested
			%		Congested	Vehicle		Congested	Vehicle
		Congested	Congested	Vehicle Miles	Vehicle Miles	Miles	Vehicle Hours	Vehicle Hours	Hours
	Lane Miles	Lane Miles	Lane Miles	Traveled	Traveled	Traveled	Traveled	Traveled	Traveled
CBD	95	47	50%	329,560	181,432	55%	21,348	15,597	73%
Chicago balance	572	103	18%	1,771,519	421,472	24%	122,508	82,638	67%
Cook Co. balance	1,097	13	1%	2,678,788	52,196	2%	62,260	3,632	6%
DuPage Co.	474	4	1%	974,128	15,310	2%	20,098	732	4%
Kane Co.	171	0	0%	211,318	0	0%	3,351	0	0%
Lake Co.	208	0	0%	459,877	0	0%	10,154	0	0%
McHenry Co.	55	0	0%	53,808	0	0%	792	0	0%
Will Co.	367	0	0%	666,714	0	0%	10,865	0	0%
TOTAL	3,039	167	5%	7,145,712	670,410	9%	251,376	102,599	41%

7. 4:00 p.m. to 6:00 p.m.

			%		Congested	% Congested Vehicle		Congested	% Congested Vehicle
	l <b>M</b> il	Congested	Congested	Vehicle Miles Traveled	Vehicle Miles Traveled	Miles Traveled	Vehicle Hours Traveled	Vehicle Hours Traveled	Hours Traveled
CBD	Lane Miles 95	Lane Miles 57	Lane Miles 59%	360.692	244.757	68%		41.700	91%
Chicago balance	572	211	37%	1.924.578	897.280	47%	.,	99.774	78%
Cook Co. balance	1,097	54	5%	3,005,896	216,497	7%	81,643	12,989	16%
DuPage Co.	474	11	2%	1,060,085	44,222	4%	25,023	2,592	10%
Kane Co.	171	0	0%	242,137	0	0%	4,009	0	0%
Lake Co.	208	31	15%	526,765	125,551	24%	16,191	7,835	48%
McHenry Co.	55	0	0%	58,851	0	0%	862	0	0%
Will Co.	367	0	0%	778,620	0	0%	13,634	0	0%
TOTAL	3,039	364	12%	7,957,624	1,528,307	19%	315,852	164,890	52%

8. 6:00 p.m. to 8:00 p.m.

						%			%
						Congested			Congested
			%		Congested	Vehicle		Congested	Vehicle
		Congested	Congested	Vehicle Miles	Vehicle Miles	Miles	Vehicle Hours	Vehicle Hours	Hours
	Lane Miles	Lane Miles	Lane Miles	Traveled	Traveled	Traveled	Traveled	Traveled	Traveled
CBD	95	20	21%	308,508	77,136	25%	14,618	6,257	43%
Chicago balance	572	19	3%	1,547,263	73,986	5%	43,023	5,198	12%
Cook Co. balance	1,097	0	0%	1,943,575	0	0%	35,156	0	0%
DuPage Co.	474	0	0%	594,907	0	0%	10,296	0	0%
Kane Co.	171	0	0%	160,203	0	0%	2,444	0	0%
Lake Co.	208	0	0%	385,062	0	0%	6,875	0	0%
McHenry Co.	55	0	0%	37,066	0	0%	525	0	0%
Will Co.	367	0	0%	459,262	0	0%	6,860	0	0%
TOTAL	3,039	39	1%	5,435,846	151,122	3%	119,797	11,455	10%

Table C-6. 2020 Expressway Lane Miles, Vehicle Miles and Vehicle Hours by Time of Day

1. 8:00 p.m. to 6:00 a.	m.								
						%			%
			%		Congested	Congested Vehicle		Congested	Congested Vehicle
		Congested	Congested	Vehicle Miles	Vehicle Miles	Miles	Vehicle Hours	Vehicle Hours	Hours
	Lane Miles	Lane Miles	Lane Miles	Traveled	Traveled	Traveled	Traveled	Traveled	Traveled
CBD	93	0	0%	498,995	0	0%	12,651	0	0%
Chicago balance	583	2	0%	2,448,488	20,933	1%	49,494	1,713	3%
Cook Co. balance	1,140	0	0%	2,833,032	0	0%	48,248	0	0%
DuPage Co.	521	0	0%	1,024,646	0	0%	17,213	0	0%
Kane Co.	175	0	0%	248,355	0	0%	3,727	0	0%
Lake Co.	331	0	0%	779,622	0	0%	13,022	0	0%
McHenry Co.	55	0	0%	53,380	0	0%	744	0	0%
Will Co.	447	0	0%	650,042	0	0%	9,376	0	0%
TOTAL	3,345	2	0%	8,536,560	20,933	0%	154,475	1,713	1%

2. 6:00 a.m. to 7:00 a.m.

			%		Congested	% Congested Vehicle		Congested	% Congested Vehicle
		Congested	Congested	Vehicle Miles	Vehicle Miles	Miles	Vehicle Hours	Vehicle Hours	Hours
	Lane Miles	Lane Miles	Lane Miles	Traveled	Traveled	Traveled	Traveled	Traveled	Traveled
CBD	93	15	16%	127,141	28,917	23%	5,452	2,443	45%
Chicago balance	596	72	12%	812,568	147,630	18%	33,577	14,654	44%
Cook Co. balance	1,140	13	1%	1,213,277	25,983	2%	26,982	1,354	5%
DuPage Co.	521	0	0%	467,814	0	0%	9,202	0	0%
Kane Co.	175	0	0%	107,696	0	0%	1,781	0	0%
Lake Co.	331	8	2%	294,260	15,277	5%	6,797	785	12%
McHenry Co.	55	0	0%	20,729	0	0%	299	0	0%
Will Co.	447	0	0%	285,637	0	0%	4,510	0	0%
TOTAL	3,358	108	3%	3,329,122	217,807	7%	88,600	19,236	22%

3. 7:00 a.m. to 9:00 a.m.

			%		Congested	% Congested Vehicle		Congested	% Congested Vehicle
	l Mil	Congested	Congested	Vehicle Miles Traveled	Vehicle Miles Traveled	Miles Traveled	Vehicle Hours Traveled	Vehicle Hours Traveled	Hours Traveled
CBD	Lane Miles 93	Lane Miles 40	Lane Miles 43%	314.129	171.725	55%		33.713	88%
Chicago balance	596	298	50%	2.066.044	1.299.309	63%	,	245.359	92%
Cook Co. balance	1.140	339	30%	3.382.972	1.321.556	39%	154.961	99,239	64%
DuPage Co.	521	109	21%	1,379,530	428,334	31%	55,224	30,072	54%
Kane Co.	175	17	9%	330,946	64,044	19%	9,195	3,207	35%
Lake Co.	331	93	28%	886,752	377,801	43%	47,713	36,962	77%
McHenry Co.	55	0	0%	84,107	0	0%	1,301	0	0%
Will Co.	447	22	5%	956,052	85,277	9%	23,515	5,477	23%
TOTAL	3,358	918	27%	9,400,532	3,748,046	40%	595,689	454,029	76%

4. 9:00 a.m. to 10:00 a.m.

						%			%
						Congested			Congested
			%		Congested	Vehicle		Congested	Vehicle
		Congested	Congested	Vehicle Miles	Vehicle Miles	Miles	Vehicle Hours	Vehicle Hours	Hours
	Lane Miles	Lane Miles	Lane Miles	Traveled	Traveled	Traveled	Traveled	Traveled	Traveled
CBD	93	24	26%	143,225	41,465	29%	7,046	3,054	43%
Chicago balance	596	74	12%	824,231	132,406	16%	30,961	11,218	36%
Cook Co. balance	1,140	22	2%	1,306,370	38,015	3%	32,111	2,047	6%
DuPage Co.	521	3	1%	540,178	4,931	1%	11,334	245	2%
Kane Co.	175	0	0%	122,072	0	0%	2,011	0	0%
Lake Co.	331	8	2%	343,557	13,279	4%	8,036	712	9%
McHenry Co.	55	0	0%	33,025	0	0%	498	0	0%
Will Co.	447	0	0%	370,923	0	0%	6,158	0	0%
TOTAL	3,358	131	4%	3,683,581	230,096	6%	98,155	17,276	18%

Table C-6 (continued). 2020 Expressway Lane Miles, Vehicle Miles and Vehicle Hours by Time of Day

5. 10:00 a.m. to 2:00 p	o.m.								
		Commented	%	V. 1. 1. 2011	Congested	% Congested Vehicle	<b>V</b> 11 11	Congested	% Congested Vehicle
	Lane Miles	Congested Lane Miles	Congested Lane Miles	Vehicle Miles Traveled	Vehicle Miles Traveled	Miles Traveled	Vehicle Hours Traveled	Vehicle Hours Traveled	Hours Traveled
CBD	93	28	31%		204,769	35%		15,333	50%
Chicago balance	583	65	11%	3,182,688	492,085	15%	113,767	41,055	36%
Cook Co. balance	1,140	4	0%	5,106,126	31,484	1%	116,509	1,880	2%
DuPage Co.	521	1	0%	2,106,622	6,683	0%	41,938	394	1%
Kane Co.	175	0	0%	476,493	0	0%	7,627	0	0%
Lake Co.	331	0	0%	1,331,212	0	0%	26,592	0	0%
McHenry Co.	55	0	0%	129,464	0	0%	1,930	0	0%
Will Co.	447	0	0%	1,404,927	0	0%	22,137	0	0%
TOTAL	3,345	98	3%	14,329,727	735,021	5%	361,442	58,662	16%

6. 2:00 p.m. to 4:00 p.m.

			%		Congested	% Congested Vehicle		Congested	% Congested Vehicle
		Congested	Congested	Vehicle Miles	Vehicle Miles	Miles	Vehicle Hours	Vehicle Hours	Hours
	Lane Miles	Lane Miles	Lane Miles	Traveled	Traveled	Traveled	Traveled	Traveled	Traveled
CBD	95	56	59%	338,779	217,818	64%	25,854	21,127	82%
Chicago balance	594	139	23%	1,878,065	565,226	30%	143,540	104,873	73%
Cook Co. balance	1,140	37	3%	3,015,535	141,804	5%	80,655	8,850	11%
DuPage Co.	521	7	1%	1,252,380	25,327	2%	27,800	1,293	5%
Kane Co.	175	0	0%	278,963	0	0%	4,635	0	0%
Lake Co.	331	8	2%	782,622	28,042	4%	18,375	1,348	7%
McHenry Co.	55	0	0%	76,626	0	0%	1,164	0	0%
Will Co.	447	0	0%	850,023	0	0%	14,163	0	0%
TOTAL	3,358	247	7%	8,472,993	978,217	12%	316,186	137,491	43%

7. 4:00 p.m. to 6:00 p.m.

						% Congested			% Congested
			%		Congested	Vehicle		Congested	Vehicle
		Congested	Congested	Vehicle Miles	Vehicle Miles	Miles	Vehicle Hours	Vehicle Hours	Hours
	Lane Miles	Lane Miles	Lane Miles	Traveled	Traveled	Traveled	Traveled	Traveled	Traveled
CBD	95	60	63%	367,203	260,057	71%	49,706	45,602	92%
Chicago balance	594	218	37%	2,009,624	933,450	46%	138,583	108,453	78%
Cook Co. balance	1,140	132	12%	3,323,821	535,280	16%	107,777	35,572	33%
DuPage Co.	521	31	6%	1,344,337	121,797	9%	37,274	7,245	19%
Kane Co.	175	1	1%	315,708	5,937	2%	6,240	312	5%
Lake Co.	331	60	18%	900,903	242,867	27%	30,279	15,855	52%
McHenry Co.	55	0	0%	77,753	0	0%	1,160	0	0%
Will Co.	447	6	1%	959,048	22,557	2%	17,930	1,428	8%
TOTAL	3,358	508	15%	9,298,397	2,121,945	23%	388,949	214,467	55%

8. 6:00 p.m. to 8:00 p.m.

						% Congested			% Congested
			%		Congested	Vehicle		Congested	Vehicle
		Congested	Congested	Vehicle Miles	Vehicle Miles	Miles	Vehicle Hours	Vehicle Hours	Hours
	Lane Miles	Lane Miles	Lane Miles	Traveled	Traveled	Traveled	Traveled	Traveled	Traveled
CBD	95	8	8%	305,108	30,191	10%	14,478	4,138	29%
Chicago balance	594	19	3%	1,544,839	74,987	5%	41,619	4,972	12%
Cook Co. balance	1,140	0	0%	2,203,539	0	0%	41,145	0	0%
DuPage Co.	521	0	0%	820,244	0	0%	14,436	0	0%
Kane Co.	175	0	0%	211,547	0	0%	3,291	0	0%
Lake Co.	331	0	0%	645,283	0	0%	11,691	0	0%
McHenry Co.	55	0	0%	47,358	0	0%	677	0	0%
Will Co.	447	0	0%	579,557	0	0%	8,702	0	0%
TOTAL	3,358	27	1%	6,357,475	105,178	2%	136,039	9,110	7%

Table C-7. 2002 Daily Auto and Truck Vehicle Miles Traveled for Arterials

	Auto Vehicle Miles Traveled	Congested Auto Vehicle Miles Traveled	Truck Vehicle Miles Traveled	Congested Truck Vehicle Miles Traveled	Total Vehicle Miles Traveled	Total Congested Vehicle Miles Traveled
CBD	2,069,474	564,498	347,941	73,696	2,417,415	638,194
Chicago balance	15,926,139	3,831,535	2,813,528	634,896	18,739,666	4,466,431
Cook Co. balance	28,485,536	2,903,126	5,325,916	516,197	33,811,452	3,419,323
DuPage Co.	10,607,233	868,816	2,051,078	133,781	12,658,310	1,002,597
Kane Co.	5,459,954	179,589	849,955	20,037	6,309,909	199,626
Lake Co.	10,092,558	1,233,528	1,669,813	138,164	11,762,372	1,371,693
McHenry Co.	4,660,872	124,067	603,688	14,498	5,264,560	138,565
Will Co.	5,971,481	149,669	784,641	16,201	6,756,122	165,870
TOTAL	83,273,247	9,854,828	14,446,560	1,547,470	97,719,806	11,402,299

Table C-8. 2007 Daily Auto and Truck Vehicle Miles Traveled for Arterials

	Auto Vehicle Miles Traveled	Congested Auto Vehicle Miles Traveled	Truck Vehicle Miles Traveled	Congested Truck Vehicle Miles Traveled	Total Vehicle Miles Traveled	Total Congested Vehicle Miles Traveled
CBD	2,161,832	621,795	352,997	80,356	2,514,829	702,151
Chicago balance	16,519,010	4,092,515	2,983,039	694,883	19,502,049	4,787,397
Cook Co. balance	29,250,436	3,279,659	5,964,237	640,930	35,214,675	3,920,589
DuPage Co.	11,139,328	1,028,178	2,445,045	180,033	13,584,373	1,208,210
Kane Co.	6,053,113	237,373	1,169,701	31,213	7,222,814	268,587
Lake Co.	11,014,707	1,742,444	2,414,490	296,942	13,429,198	2,039,386
McHenry Co.	5,092,664	162,900	866,829	21,155	5,959,492	184,055
Will Co.	6,631,966	167,300	1,032,572	17,591	7,664,538	184,892
TOTAL	87,863,056	11,332,164	17,228,910	1,963,103	105,091,968	13,295,267

Table C-9. 2020 Daily Auto and Truck Vehicle Miles Traveled for Arterials

	Auto Vehicle Miles Traveled	Congested Auto Vehicle Miles Traveled	Truck Vehicle Miles Traveled	Congested Truck Vehicle Miles Traveled	Total Vehicle Miles Traveled	Total Congested Vehicle Miles Traveled
CBD	2,253,105	660,378	362,894	88,471	2,615,999	748,848
Chicago balance	17,227,538	4,635,680	3,390,732	895,960	20,618,271	5,531,641
Cook Co. balance	32,473,121	5,115,314	6,778,738	1,023,438	39,251,858	6,138,750
DuPage Co.	12,892,182	1,907,069	2,806,024	316,439	15,698,206	2,223,509
Kane Co.	7,577,173	666,043	1,476,727	89,737	9,053,900	755,780
Lake Co.	12,341,929	2,616,656	2,807,468	509,040	15,149,397	3,125,696
McHenry Co.	5,918,751	406,892	1,093,883	54,581	7,012,634	461,473
Will Co.	8,312,265	425,965	1,355,077	45,169	9,667,342	471,134
TOTAL	98,996,064	16,433,997	20,071,543	3,022,835	119,067,607	19,456,831

Table C-10. 2002 Daily Auto and Truck Vehicle Miles Traveled for Expressways

		Congested		Congested		Total Congested
	Auto Vehicle	Auto Vehicle	Truck Vehicle	Truck Vehicle	Total Vehicle	Vehicle Miles
	Miles Traveled	Traveled				
CBD	2,292,902	745,811	333,319	126,046	2,626,221	871,857
Chicago balance	11,598,989	2,750,963	2,059,476	429,780	13,658,465	3,180,743
Cook Co. balance	13,134,070	828,408	4,612,470	203,104	17,746,540	1,031,512
DuPage Co.	4,120,293	112,989	1,914,667	31,707	6,034,960	144,696
Kane Co.	1,049,507	0	260,063	0	1,309,570	0
Lake Co.	2,513,635	160,187	579,734	23,776	3,093,369	183,964
McHenry Co.	241,366	0	61,923	0	303,288	0
Will Co.	2,962,326	19,528	884,259	6,299	3,846,585	25,827
TOTAL	37,913,088	4,617,886	10,705,911	820,712	48,618,998	5,438,599

Table C-11. 2007 Daily Auto and Truck Vehicle Miles Traveled for Expressways

	Auto Vehicle Miles Traveled	Congested Auto Vehicle Miles Traveled	Truck Vehicle Miles Traveled	Congested Truck Vehicle Miles Traveled	Total Vehicle Miles Traveled	Total Congested Vehicle Miles Traveled
CBD	2,323,037	856,176	334,990	153,175	2,658,026	1,009,350
Chicago balance	12,018,361	2,845,181	2,142,007	462,543	14,160,368	3,307,724
Cook Co. balance	14,401,521	853,990	5,379,766	221,146	19,781,286	1,075,136
DuPage Co.	4,599,219	178,596	2,260,547	56,823	6,859,767	235,420
Kane Co.	1,235,109	0	322,095	0	1,557,204	0
Lake Co.	2,747,973	255,945	731,565	38,692	3,479,537	294,637
McHenry Co.	284,578	0	88,713	0	373,291	0
Will Co.	3,562,762	16,293	1,219,971	5,406	4,782,733	21,699
TOTAL	41,172,560	5,006,181	12,479,654	937.785	53.652.212	5,943,966

Table C-12. 2020 Daily Auto and Truck Vehicle Miles Traveled for Expressways

	Auto Vehicle Miles Traveled	Congested Auto Vehicle Miles Traveled	Truck Vehicle Miles Traveled	Congested Truck Vehicle Miles Traveled	Total Vehicle Miles Traveled	Total Congested Vehicle Miles Traveled
CBD	2,340,801	813,573	345,972	141,368	2,686,774	954,942
Chicago balance	12,293,082	3,096,120	2,473,467	569,905	14,766,548	3,666,025
Cook Co. balance	16,355,325	1,679,104	6,029,346	415,017	22,384,671	2,094,121
DuPage Co.	6,371,555	468,406	2,564,197	118,667	8,935,752	587,073
Kane Co.	1,699,573	61,634	392,207	8,347	2,091,780	69,981
Lake Co.	4,773,061	587,955	1,191,151	89,310	5,964,212	677,265
McHenry Co.	384,461	0	137,981	0	522,442	0
Will Co.	4,440,996	90,860	1,615,213	16,975	6,056,209	107,835
TOTAL	48,658,854	6,797,652	14,749,534	1,359,589	63,408,388	8,157,242

Table C-13. 2002 Daily Auto and Truck Vehicle Miles Traveled for Arterials by Time of Day

	Auto Vehicle Miles Traveled	Congested Auto Vehicle Miles Traveled	Truck Vehicle Miles Traveled	Congested Truck Vehicle Miles Traveled	Total Vehicle Miles Traveled	Total Congested Vehicle Miles Traveled
01. 8:00 p.m. to 6:00 a.m.	9,226,966	5,957	522,618	326	9,749,584	6,283
02. 6:00 a.m. to 7:00 a.m.	3,599,428	141,568	473,209	10,038	4,072,637	151,606
03. 7:00 a.m. to 9:00 a.m.	13,237,777	4,395,416	3,195,835	831,846	16,433,612	5,227,262
04. 9:00 a.m. to 10:00 a.m.	3,960,857	154,206	1,573,700	60,084	5,534,557	214,290
05. 10:00 a.m. to 2:00 p.m.	17,874,061	758,702	4,613,802	194,051	22,487,863	952,753
06. 2:00 p.m. to 4:00 p.m.	10,577,719	933,721	2,736,260	234,322	13,313,979	1,168,043
07. 4:00 p.m. to 6:00 p.m.	15,006,043	3,289,460	1,121,626	213,987	16,127,669	3,503,447
08. 6:00 p.m. to 8:00 p.m.	9,790,394	175,799	209,509	2,816	9,999,903	178,615
TOTAL	83,273,245	9,854,829	14,446,559	1,547,470	97,719,804	11,402,299

Table C-14. 2007 Daily Auto and Truck Vehicle Miles Traveled for Arterials by Time of Day

	Auto Vehicle Miles Traveled	Congested Auto Vehicle Miles Traveled	Truck Vehicle Miles Traveled	Congested Truck Vehicle Miles Traveled	Total Vehicle Miles Traveled	Total Congested Vehicle Miles Traveled
01. 8:00 p.m. to 6:00 a.m.	9,694,484	26,996	610,693	1,942	10,305,177	28,938
02. 6:00 a.m. to 7:00 a.m.	3,823,792	195,534	554,812	15,234	4,378,603	210,769
03. 7:00 a.m. to 9:00 a.m.	14,139,537	5,068,691	3,812,833	1,025,594	17,952,370	6,094,285
04. 9:00 a.m. to 10:00 a.m.	4,178,987	222,221	1,882,885	95,172	6,061,872	317,393
05. 10:00 a.m. to 2:00 p.m.	18,723,043	871,201	5,503,235	259,784	24,226,280	1,130,984
06. 2:00 p.m. to 4:00 p.m.	11,147,870	1,063,850	3,279,400	306,100	14,427,271	1,369,950
07. 4:00 p.m. to 6:00 p.m.	15,911,819	3,665,892	1,342,025	255,213	17,253,844	3,921,105
08. 6:00 p.m. to 8:00 p.m.	10,243,524	217,778	243,028	4,065	10,486,552	221,843
TOTAL	87,863,056	11,332,163	17,228,911	1,963,104	105,091,969	13,295,267

Table C-15. 2020 Daily Auto and Truck Vehicle Miles Traveled for Arterials by Time of Day

	Auto Vehicle Miles Traveled	Congested Auto Vehicle Miles Traveled	Truck Vehicle Miles Traveled	Congested Truck Vehicle Miles Traveled	Total Vehicle Miles Traveled	Total Congested Vehicle Miles Traveled
01. 8:00 p.m. to 6:00 a.m.	10,724,368	11,297	703,351	1,467	11,427,719	12,764
02. 6:00 a.m. to 7:00 a.m.	4,375,501	317,390	634,756	26,957	5,010,257	344,347
03. 7:00 a.m. to 9:00 a.m.	16,195,503	7,096,295	4,389,961	1,462,270	20,585,463	8,558,566
04. 9:00 a.m. to 10:00 a.m.	4,714,137	386,515	2,200,741	182,591	6,914,878	569,106
05. 10:00 a.m. to 2:00 p.m.	21,014,533	1,383,437	6,460,760	449,232	27,475,291	1,832,669
06. 2:00 p.m. to 4:00 p.m.	12,631,024	1,730,964	3,831,977	516,494	16,463,001	2,247,457
07. 4:00 p.m. to 6:00 p.m.	17,927,562	5,231,435	1,564,018	378,017	19,491,581	5,609,452
08. 6:00 p.m. to 8:00 p.m.	11,413,437	276,662	285,980	5,806	11,699,417	282,468
TOTAL	98,996,065	16,433,995	20,071,544	3,022,834	119,067,607	19,456,829

Table C-16. 2002 Daily Auto and Truck Vehicle Miles Traveled for Expressways by Time of Day

	Auto Vehicle Miles Traveled	Congested Auto Vehicle Miles Traveled	Truck Vehicle Miles Traveled	Congested Truck Vehicle Miles Traveled	Total Vehicle Miles Traveled	Total Congested Vehicle Miles Traveled
01. 8:00 p.m. to 6:00 a.m.	5,795,580	16,250	635,657	1,136	6,431,237	17,386
02. 6:00 a.m. to 7:00 a.m.	2,198,246	187,306	388,065	15,447	2,586,311	202,753
03. 7:00 a.m. to 9:00 a.m.	5,611,883	1,836,258	1,838,833	338,080	7,450,716	2,174,338
04. 9:00 a.m. to 10:00 a.m.	1,635,140	88,607	1,160,270	54,861	2,795,410	143,468
05. 10:00 a.m. to 2:00 p.m.	7,006,871	480,939	3,728,080	171,102	10,734,951	652,041
06. 2:00 p.m. to 4:00 p.m.	4,473,266	500,242	1,956,790	147,736	6,430,056	647,978
07. 4:00 p.m. to 6:00 p.m.	6,502,929	1,358,421	794,809	89,565	7,297,738	1,447,986
08. 6:00 p.m. to 8:00 p.m.	4,689,175	149,863	203,408	2,786	4,892,583	152,649
TOTAL	37,913,090	4,617,886	10,705,912	820,713	48,619,002	5,438,599

Table C-17. 2007 Daily Auto and Truck Vehicle Miles Traveled for Expressways by Time of Day

	Auto Vehicle Miles Traveled	Congested Auto Vehicle Miles Traveled	Truck Vehicle Miles Traveled	Congested Truck Vehicle Miles Traveled	Total Vehicle Miles Traveled	Total Congested Vehicle Miles Traveled
01. 8:00 p.m. to 6:00 a.m.	6,367,817	0	726,700	0	7,094,517	0
02. 6:00 a.m. to 7:00 a.m.	2,368,381	169,254	458,028	10,168	2,826,410	179,422
03. 7:00 a.m. to 9:00 a.m.	6,012,508	2,082,132	2,123,605	414,910	8,136,113	2,497,043
04. 9:00 a.m. to 10:00 a.m.	1,769,888	88,806	1,348,444	50,684	3,118,332	139,490
05. 10:00 a.m. to 2:00 p.m.	7,589,924	562,203	4,347,738	215,971	11,937,661	778,174
06. 2:00 p.m. to 4:00 p.m.	4,847,514	525,884	2,298,197	144,526	7,145,711	670,410
07. 4:00 p.m. to 6:00 p.m.	7,020,415	1,429,222	937,209	99,085	7,957,624	1,528,306
08. 6:00 p.m. to 8:00 p.m.	5,196,113	148,681	239,732	2,440	5,435,844	151,122
TOTAL	41.172.560	5.006.182	12.479.653	937.784	53.652.212	5,943,967

Table C-18. 2020 Daily Auto and Truck Vehicle Miles Traveled for Expressways by Time of Day

		Congested		Congested		Total Congested
	Auto Vehicle	Auto Vehicle	Truck Vehicle	Truck Vehicle	<b>Total Vehicle</b>	Vehicle Miles
	Miles Traveled	Traveled				
01. 8:00 p.m. to 6:00 a.m.	7,593,951	17,923	942,610	3,010	8,536,561	20,933
02. 6:00 a.m. to 7:00 a.m.	2,781,038	200,646	548,084	17,161	3,329,123	217,806
03. 7:00 a.m. to 9:00 a.m.	6,934,322	3,079,413	2,466,210	668,633	9,400,532	3,748,046
04. 9:00 a.m. to 10:00 a.m.	2,095,238	138,483	1,588,343	91,612	3,683,581	230,095
05. 10:00 a.m. to 2:00 p.m.	9,197,749	546,055	5,131,978	188,966	14,329,727	735,021
06. 2:00 p.m. to 4:00 p.m.	5,786,265	740,999	2,686,727	237,217	8,472,992	978,216
07. 4:00 p.m. to 6:00 p.m.	8,203,291	1,970,067	1,095,106	151,879	9,298,397	2,121,946
08. 6:00 p.m. to 8:00 p.m.	6,066,999	104,066	290,475	1,112	6,357,474	105,178
TOTAL	48,658,853	6,797,652	14,749,533	1,359,590	63,408,387	8,157,241

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